

Table 8-50 lists the functions of the LEDs in the panel.

LED	Description	What does it mean when LED is lit?
RLOW	Reservoir Low	The ink level in the FMS reservoir is low.
ROVER	Reservoir Overfill	The ink level in the FMS reservoir has exceeded its capacity. This results in a printer fault.
ILOW	Ink Low	The fluid in the ink supply tank is low.
MLOW	Make-Up Low	The fluid in the make-up supply tank is low.
IBOT	Ink Bottle Present	An ink bottle has been inserted in the printer.
MFUL	Make-Up Full	The fluid in the make-up supply tank is full.
SW1	(not currently used)	Reserved for future expansion.
IFUL	Ink Full	The fluid in the ink supply tank is full
VAL2 and VAL8	(not currently used)	Reserved for future expansion.
NWSH	Nozzle Wash Valve	The nozzle wash valve allows the flow of make-up fluid across the face of the nozzle.
WPMP	Wash Pump Control Valve	The wash pump control valve diverts ink into the wash pump.
NVAL	Nozzle Valve	The nozzle valve allows ink to flow into the nozzle.
NBYP	X-Flow Return Valve	The X-flow return valve allows ink in the nozzle to bypass the nozzle orifice and return to the FMS reservoir.
IVAL	Ink Circulation Valve	The ink circulation valve allows the flow of ink from the FMS reservoir into the ink pump.
IADD	Ink Add Valve	The ink add valve allows the flow of ink from the ink supply tank into the ink pump.
MADD	Make-Up Add Valve	The make-up add valve allows the flow of make-up fluid from the make-up supply tank into the FMS reservoir.
IBYP	Ink Bypass Valve	The ink bypass valve allows ink to bypass the nozzle entirely and return to the FMS reservoir.
CWSH	Catcher Wash Valve	The catcher wash valve allows the flow of make-up fluid to the ink return block.

Table 8-50: Functions of LEDs on the Print Engine Circuit Board

LED	Description	What does it mean when LED is lit?
WRTN	Wash Return Valve	The wash return valve allows fluid at the face of the nozzle to be returned into the FMS reservoir.
APWR	Analog Power	-
AEN	Analog Circuits Enabled	Indicates that the control board has released the analog circuits on the print engine board. This LED is normally on, but remains off for a portion of the boot process.
+220	+220V Supply Status	+220V supply is on.
+337	+337V Supply Status	+337V supply is on.
HV	High Voltage Status	The high voltage is on.
PHA	Phase Stability	A phasing fault or a no signal fault has occurred.
HTR	Heater Power	The printhead heater is on.
TEMP	Heater Temperature	The printhead temperature is within the acceptable operating range.
VPMP	Vacuum Pump	The vacuum pump is on.
IPMP	Ink Pump	The ink pump is on.

Table 8-50: Functions of LEDs on the Print Engine Circuit Board (Continued)

Control Board

A number of LEDs can be seen on the portion of the control board that sticks out from behind the print engine board.

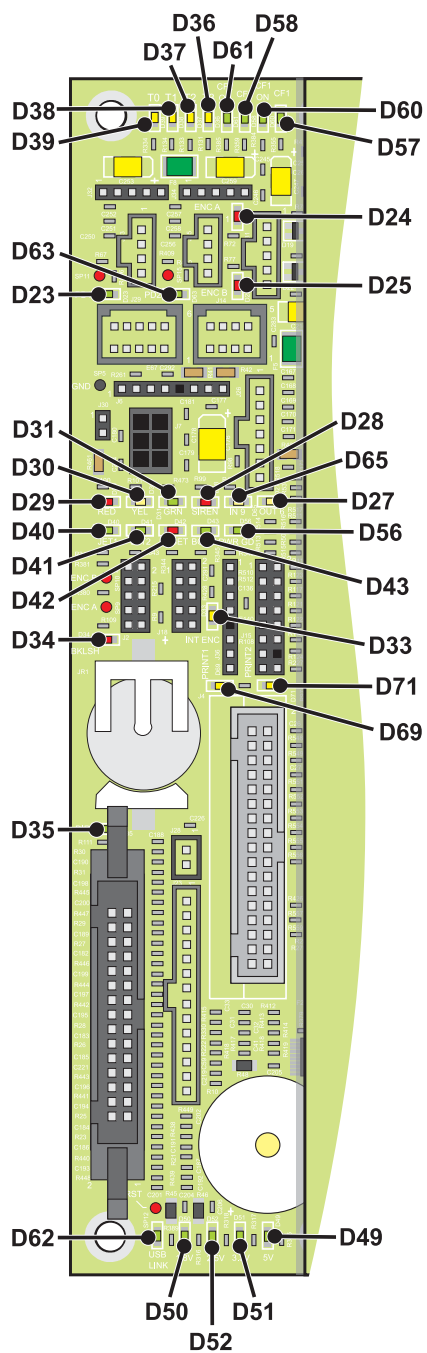


Figure 8-17: Control Board LED Location

Table 8-51 lists the colors and functions of these LEDs.

LED	Color	Mnemonic	Meaning
D23	Green	PD1	Input from product detector 1. For some product detectors, this light is normally off, lighting to indicate a successful product detect. For other product detectors, this light is normally off, extinguishing to indicate a detected product.
D24	Red	ENC A	Indicates a pulse from shaft encoder A.
D25	Red	ENC B	Not currently used.
D27	Yellow	OUT 6	The output relay associated with the Basic I/O port is active
D28	Red	SIREN	Not currently used.
D29	Red	RED	Not currently used.
D30	Yellow	YEL	Not currently used.
D31	Green	GRN	Not currently used.
D33	Yellow	INT ENC	Not currently used.
D34	Red	BKLSH	Not currently used.
D35	Green	DIR	Not currently used.
D36 -to- D39	Yellow	T0, T1, T2 and T3	Indicate status of loading operating software from the flash memory card. See "Operating Software Boot Progress Indicators" on page 8-61 for more information.
D40	Green	JET1	Indicates communication with the print engine board.
D41	Green	JET2	Not currently used.
D42	Red	RESET	The control board is in the process of resetting itself.
D43	Green	BOOT	The control board is booting up.
D49	Green	5V	The 5V supply is on.
D50	Green	1.8V	The 1.8V supply is on.
D51	Green	3.3V	The 3.3V supply is on.
D52	Green	2.5V	The 2.5V supply is on.

Table 8-51: Control Board LED Functions

LED	Color	Mnemonic	Meaning
D56	Green	PWR GD	All four of the control board component supplies (5V, 1.8V, 3.3V and 2.5V) are on. All four of them are operating within 10% of the specified voltage.
D57	Green	CF2	Flash memory card 2 is being accessed.
D58	Green	CF1	Flash memory card 1 is being accessed.
D60	Green	CF2 on	Flash memory card 2 is on.
D61	Green	CF1 on	Flash memory card 1 is on.
D62	Green	USB LINK	Not currently used.
D63	Green	PD2	Not currently used.
D65	Yellow	IN 9	Indicates activity on the Basic I/O port's input line.
D69	Yellow	PRINT 1	Print Image in process.
D71	Yellow	PRINT 2	Not currently used.

Table 8-51: Control Board LED Functions (Continued)

Operating Software Boot Progress Indicators

During the boot process, the LEDs labeled T0, T1, T2, and T3 indicate the status of loading the printer's operating software from the inserted flash memory card. They are useful for debugging faults in the boot process, particularly if no video is displayed on the screen.

If T3 is not lit, these LEDs indicate the progress of the boot procedure, as shown in Table 8-52.

T3	T2	T1	T0	Status
Off	Off	Off	On	Main has been entered.
Off	Off	On	Off	Normal mode has been chosen.
Off	On	Off	On	Found file system on flash memory card.
Off	On	On	Off	Programmed main programmable gate array.
Off	On	On	On	About to start main application from flash card.

Table 8-52: Indications of Operating Software Boot Progress

If T3 is lit, however, these LEDs indicate a fault condition, as shown in Table 8-53.

T3	T2	T1	T0	Fault Indicated
On	Off	Off	Off	No flash memory card inserted.
On	Off	Off	On	No valid file system found on flash memory card.
On	Off	On	Off	No valid main gate array code found.
On	Off	On	On	No valid print engine gate array code found.
On	On	Off	Off	No valid nucleus code found.

Table 8-53: Fault Indications

Electronic Test Points

Introduction

Occasionally, it is necessary to analyze control circuit board or the print engine circuit board to find the cause of printer faults and other conditions. The test points on these circuit boards are used to help localize or isolate a problem.

Electrical circuit checks may be necessary when the wiring breaks or printhead failure is suspected. Use a digital voltmeter (DVM) or an oscilloscope (when appropriate) to check voltage signal levels at the printhead and the appropriate circuit board when checking the continuity and resistance of a suspected wire or the functionality of a suspected circuit or component.

Print Engine Circuit Board (PEAP)

See Table 8-54 on page 8-64 to find the signal definition for each test point, and see Figure 8-18 for the location of the test points on the print engine circuit board.

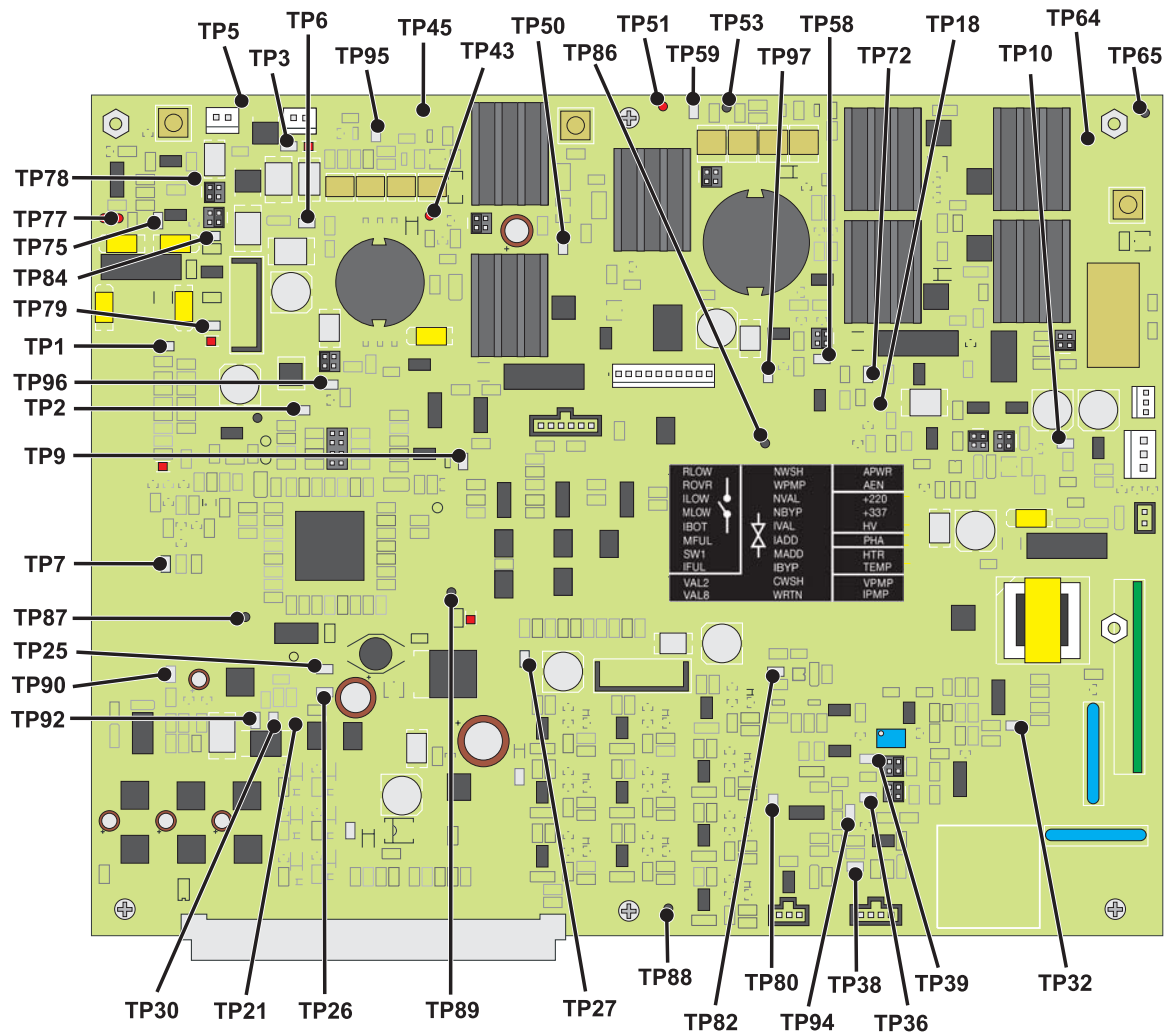


Figure 8-18: Test Point Locations on Print Engine Circuit Board

Table 8-54 lists the test points and the signal definition for the print engine board.

Test Point	Signal Definition
TP1	+12V AUX operating voltage (see page 8-65).
TP2	+5V PEAP logic (see page 8-66).
TP3	+24V DC input (see page 8-66).
TP5	GND. Reference TP for observing signals.
TP6	Print engine board switched +24V DC (see page 8-66).
TP7	Analog enable (see page 8-67).
TP9	Print engine board ambient temperature (see page 8-67).
TP10	Heater driver signal (see page 8-68).
TP18	GND
TP21	GND
TP25	Vacuum pump out (see page 8-68).
TP26	GND
TP27	Vacuum pump enable (see page 8-68).
TP30	Ink pump PWM (see page 8-69).
TP32	High voltage monitor (see page 8-69).
TP36	HV enable (see page 8-69).
TP38	High voltage arc signal (see page 8-70).
TP39	HV Manual trim program voltage (see page 8-70).
TP43	+337V DC out (see page 8-71).
TP45	GND
TP50	+337V DC voltage to charge amplifier (see page 8-71).
TP51	Charge amplifier output to printhead (see page 8-72).
TP53	GND
TP58	+220V DC enable (see page 8-72).
TP59	+220V DC converter output (see page 8-73).
TP64	Analog nozzle drive signal (see page 8-73).
TP65	GND
TP72	Digital nozzle clock signal (see page 8-73).

Table 8-54: Print Engine Board Test Points

Test Point	Signal Definition
TP75	Peak detector DC tracking level for fly-by sensor (see page 8-74).
TP77	Bi-polar phase amplifier signal (see page 8-75).
TP78	GND
TP79	Phase comparator (see page 8-76).
TP80	Flight time amplifier signal (see page 8-77).
TP82	Flight time comparator output (see page 8-78).
TP84	Variable phase comparator reference (see page 8-79).
TP86	GND
TP87	GND
TP88	GND
TP89	GND
TP90	Ink pump RPM (see page 8-79).
TP92	Ink pump enable (see page 8-79).
TP94	High voltage status (see page 8-79).
TP95	+337V DC status output (see page 8-80).
TP96	+337V DC supply enable (see page 8-80).
TP97	+220V DC supply status (see page 8-80).

Table 8-54: Print Engine Board Test Points (Continued)

Note: The remaining test points are used for manufacturing testing only and, therefore, are not listed. These test points are of no use in troubleshooting or analyzing the printer.

TP1 +12 V AUX operating voltage

Description

This voltage supplies the control board.

Testing

Using a DVM, connect the ground probe to one of the “GND” test points listed in Table 8-54. Connect the other probe to TP1. You should get a reading between 11.00 and 13.00 volts.

TP2 +5V logic**Description**

This voltage is the logic supply for the print engine board.

Testing

Using a DVM, connect the ground probe to one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP2. You should get a reading between 4.75 and 5.25 volts.

TP3 +24V DC input**Description**

Indicates the voltage input to the print engine PCB from the +24V DC power supply.

Testing

Using a DVM, connect the ground probe to one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP3. You should get a reading of 24V DC \pm 1.20 volts.

***Note:** However, you could get a reading as low as 21V DC or as high as 27V DC, and the printer functions normally.*

TP6 Print Engine Board +24V DC**Description**

This is the switched +24V DC supply on the print engine board.

Testing

Using a DVM, connect the ground probe to one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP6. You should get a reading of 24V DC \pm 1.50 volts.

TP7 Analog enable

Description

This signal is the microprocessor control line that enables power on the print engine board. The control board can switch analog power ON or OFF through this line.

Testing

Using a DVM, connect the ground probe to one of the "GND" test points listed in Table 8-54 on page 8-64. Connect the other probe to TP7. A reading of 0.7 volts or lower indicates an analog "ON" condition (Use the 20V scale). A reading of 2.5V or greater indicates an analog "OFF" condition.

TP9 Print engine board ambient temperature

Description

Indicates the ambient temperature as measured by the print engine board. When temperature over 70 °C is detected, the printer begins shutting down to avoid damage to its systems.

Testing

Using a DVM, connect the ground probe to one of the "GND" test points listed in Table 8-54 on page 8-64. Connect the other probe to TP9. The temperature in degrees Celsius can be derived by inserting the voltage reading at TP9 into the following formula:

$$\text{Temperature} = (<\text{TP9 voltage reading}> - 0.425) / 0.00625$$

For example, a reading of 0.625 volts, would produce the following temperature calculation:

$$\text{Temperature} = (0.625 - 0.425) / 0.00625 = 32\text{ }^{\circ}\text{C}$$

TP10 Heater Driver Signal

Description

Pulse width modulated signal to heater element.

Testing

Using an oscilloscope, connect the ground probe to one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe TP10. A waveform is observed rising from 0 volts to +24V DC at a particular duty cycle dependent on the heater temperature.

TP25 Vacuum pump out

Description

A DC level measured from +22 to +23V DC.

Testing

Using a DVM, connect the ground probe to one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP25.

TP27 Vacuum pump enable

Description

This signal is the microprocessor control line that enables the vacuum pump. The control board can switch the vacuum pump ON or OFF through this line.

Testing

Using a DVM, connect the ground probe to one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP27. A reading of 0.7 volts or lower indicates a vacuum pump “OFF” condition (Use the 20V scale). A reading of 2.5V or greater indicates a vacuum pump “ON” condition.

TP30 Ink pump PWM

Description

Duty cycle modulated timing signal to pump driver.

Testing

To verify that the ink pump is being driven, connect an oscilloscope to TP30. A digital signal of 5kHz and a varying duty cycle is observed.

TP32 High voltage monitor

Description

Indicates the output level of the high voltage power supply. This voltage is a positive reading.

This value is 1/1000 of the actual voltage at the printhead. (For example +4.5 volts at TP32 equates to +4500 volts at the printhead.)

Testing

Using a DVM, connect the ground probe one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP32. You should get a reading of approximately 3 to 6 volts (Use the 20V scale).

TP36 HV enable

Description

This signal is the microprocessor control line that enables high voltage supply. The control board can switch the high voltage supply ON or OFF through this line.

Testing

Using a DVM, connect the ground probe one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP36. A reading of 0.7 volts or lower indicates a high voltage “OFF” condition. A reading of 2.5 volts or greater indicates a high voltage “ON” condition.

TP38 High voltage arc signal

Description

This comparator indicates high voltage arcing. Arcing normally occurs in the printhead when the printhead deflection plate gathers ink.

Testing

Connect an oscilloscope to TP38. If arcing is occurring, you will observe a digital signal swinging to ground. The repetition rate varies depending on the conditions.

TP39 HV manual trim program voltage

Description

This test point indicates the current setting of the nearby trimpot. When jumper J14 is placed in the non-bar position, this trimpot can be used to set the high voltage output manually.

Like the high voltage monitor test point, this value shows 1/1000 of the actual voltage that would be used at the printhead. (For example +4.5 volts at TP39 equates to +4500 volts at the printhead.)

Testing

Using a DVM, connect the ground probe to one of the "GND" test points listed in Table 8-54 on page 8-64. Connect the other probe to TP39. For proper printing and character height, the voltage can be set anywhere between 3 to 6 volts.

TP43 +337V DC out

Description

The output from the +337V converter is measured here.

Testing



Caution

PERSONAL INJURY. Use caution when measuring this voltage and connecting or disconnecting the test leads.

Using a DVM, connect the ground probe to one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP43. You should get a reading of +337 volts \pm 1 volt.

TP50 +337V DC voltage to charge amplifier

Description

This voltage powers the charge amplifier.

Testing



Caution

ELECTRICAL SAFETY. Use caution when measuring this voltage and connecting or disconnecting the test leads.

Using a DVM, connect the ground probe one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP50. You should get a reading of +337 volts \pm 1 volt.

TP51 Charge amplifier output to printhead

Description

This voltage goes out to the charge electrode through the umbilical.

Testing

Connect an oscilloscope to TP51 to verify that the print engine board is in the printing mode. As shown in Figure 8-19, levels from 0 to 314 volts is observed when printing. However, the shape of the waveform varies (you should see the actual dot pattern of the message being printed).

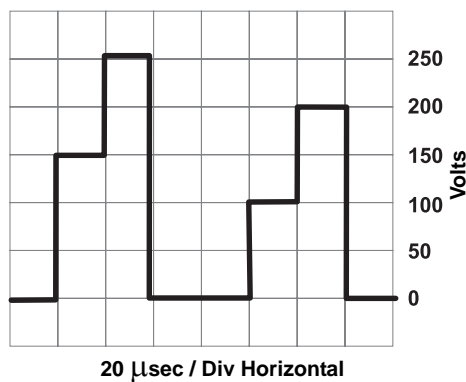


Figure 8-19: Test Point 51 Signal

TP58 +220V DC enable

Description

This signal is the microprocessor control line that enables the 220 volt converter. When jumper J20 is in the “bar” position, the control board can switch the converter ON or OFF through this line.

Testing

Using a DVM, connect the ground probe to one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP58. A reading of 0.7 volts or lower indicates a +220V “OFF” condition. A reading of 2.5 volts or greater indicates a +220V “ON” condition.

TP59 +220V DC converter output**Description**

Measurement TP for the output from the +220V converter.

Testing

Using a DVM, connect the ground probe to one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP59. You should get a reading of $+220V \pm 3$ volts.

TP64 Analog nozzle drive signal**Description**

This signal is the driving signal to the nozzle. The amplitude is 170V PPK maximum, depending on the nozzle requirements.

Testing

To verify if the print engine board is driving the nozzle, connect an oscilloscope to TP64. AC couple the signal and set the sweep speed to approximately $10\mu\text{sec}/\text{DIV}$. A sine wave at 66kHz should be observed. The amplitude varies depending on the nozzle requirements.

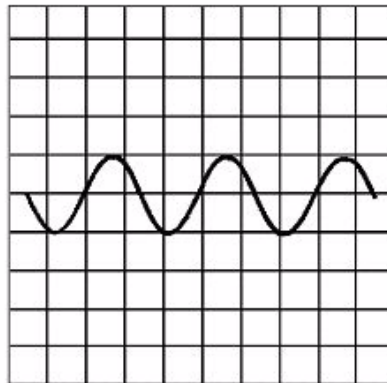


Figure 8-20: TP64 Signal

TP72 Digital nozzle clock signal**Description**

Logic reference for the nozzle drive amplifier.

Testing

Connect an oscilloscope to TP72 to verify this signal. A logic level signal at 66kHz 50% duty cycle should be observed.

TP75 Peak detector DC tracking level

Description

This DC level tracks the fly-by signal pulses. Used for the phase comparator trip point. The software uses this peak detected signal to set a percentage trip point for the phase comparator.

Testing

To observe this signal, connect an oscilloscope to TP75. Use DC coupling and set the attenuator for 1V/DIV vertical. A DC signal should be observed with a slight decay and charge at the peak.

TP77 Bi-polar phase amplifier signal

Description

Phase signal with positive and negative peaks. This is the standard (non-rectified) phase signal that is selected when J26 is in the bar position.

Testing

Using an oscilloscope, connect the ground probe to one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP77. You should see a waveform similar to that shown in Figure 8-21.

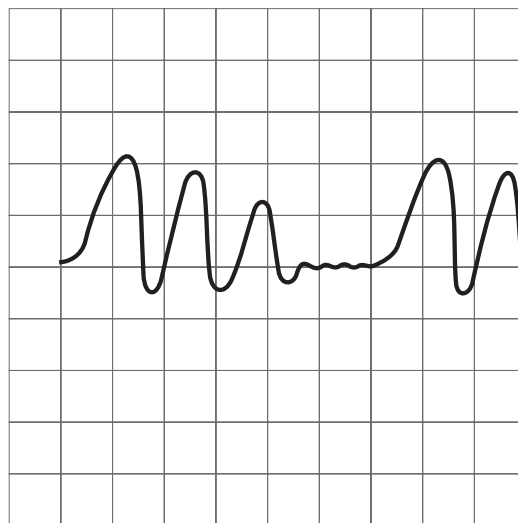


Figure 8-21: Test Point 77 Signal

TP79 Phase comparator

Description

Comparator output which indicates a good phase when referenced to its input signal.

Testing

Using an oscilloscope, connect the ground probe to one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP79. You should see a square wave similar to that shown in Figure 8-22. The low going portion of this waveform indicates the “good” phases.

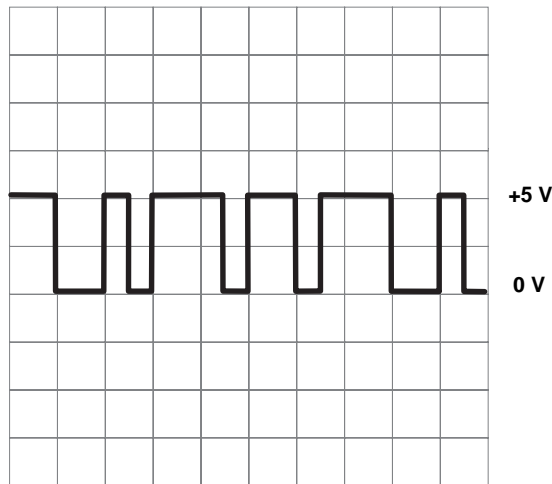


Figure 8-22: Test Point 79 Signal

As the amplitude of a charged group of drops reaches the trip levels set by the software, the state of the comparator switches resulting in a low going signal which represents the good phase. This can be seen using a dual trace oscilloscope (see Figure 8-23).

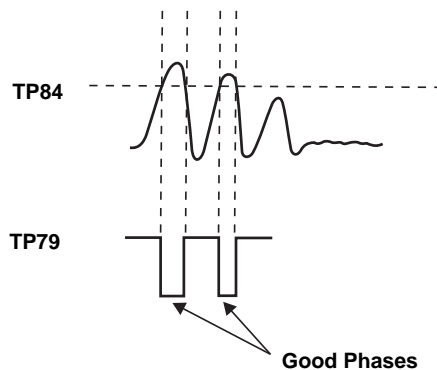


Figure 8-23: Comparing TP84 and TP79

TP80 Flight time amplifier signal

Description

Positive going flight time amplifier signal.

Testing

Using an oscilloscope, connect the ground probe to one of the "GND" test points listed in Table 8-54 on page 8-64. Connect the other probe to TP80. You should see a signal similar to the one shown in Figure 8-24.

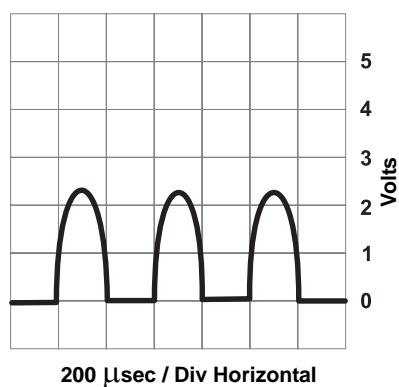


Figure 8-24: Test Point 80 Signal

TP82 Flight time comparator output

Description

Comparator output which indicates a good phase when referenced to its input signal.

Testing

Using an oscilloscope, connect the ground probe to one of the "GND" test points listed in Table 8-54 on page 8-64. Connect the other probe to TP82. You should see a square wave similar to that shown in Figure 8-25. The low going portion of this waveform indicates the "good" phases.

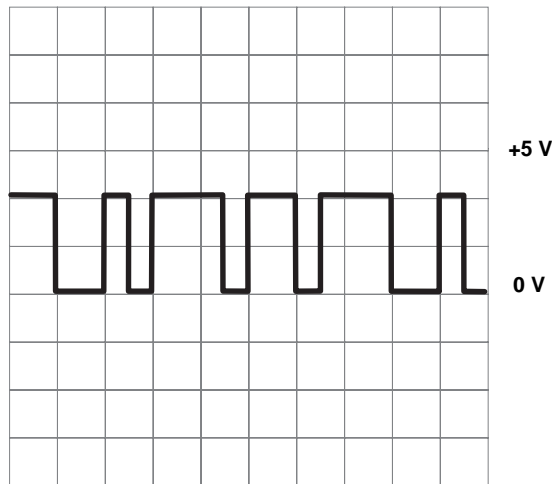


Figure 8-25: Test Point 82 Signal

As the amplitude at TP80 reaches the trip levels set by the software, the state of the comparator switches resulting in a low going signal which represents the good phase. This can be seen using a dual trace oscilloscope (see Figure 8-26).

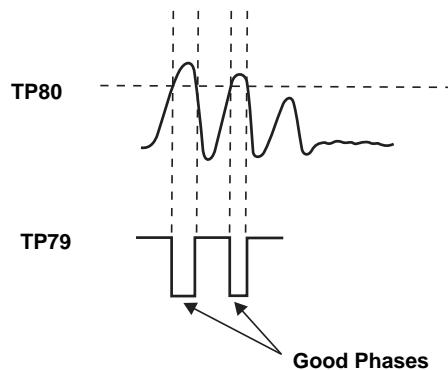


Figure 8-26: Comparing TP80 and TP92

TP84 Variable phase comparator reference**Description**

This signal is calculated by the software to determine the best phase comparator trip point.

TP90 Ink pump RPM**Description**

Logic level signal which indicates the relative RPM of the ink pump.

TP92 Ink pump enable**Description**

This signal is the microprocessor control line that enables the ink pump. The control board can switch the ink pump ON or OFF through this line.

Testing

Using a DVM, connect the ground probe to one of the "GND" test points listed in Table 8-54 on page 8-64. Connect the other probe to TP94. A reading of 0.7 volts or lower indicates an ink pump "OFF" condition (use the 20V scale). A reading of 2.5V or greater indicates an ink pump "ON" condition.

TP94 High voltage status**Description**

This comparator indicates whether the high voltage supply is ON or OFF.

Testing

Using a DVM, connect the ground probe to one of the "GND" test points listed in Table 8-54 on page 8-64. Connect the other probe to TP94. A reading of 0.7 volts or lower indicates that the high voltage is "ON" (use the 20V scale). A reading of 2.5V or greater indicates that the high voltage is "OFF."

TP95 +337V DC status output

Description

This output indicates whether the +337 volt supply is ON or OFF.

Testing

Using a DVM, connect the ground probe to one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP95. A reading of 0.7 volts or lower indicates a +337V “ON” condition (use the 20V scale). A reading of 2.5V or greater indicates a +337V “OFF” condition.

TP96 +337 supply enable

Description

This signal is the microprocessor control line that enables the 337 volt converter. The control board can switch the converter ON or OFF through this line.

Testing

Using a DVM, connect the ground probe to one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP96. A reading of 0.7 volts or lower indicates a +337V “OFF” condition (use the 20 V scale). A reading of 2.5V or greater indicates a +337V “ON” condition.

TP97 +220V DC supply status

Description

This signal indicates whether the +220 volt supply is ON or OFF.

Testing

Using a DVM, connect the ground probe to one of the “GND” test points listed in Table 8-54 on page 8-64. Connect the other probe to TP97. A reading of 0.7 volts or lower indicates a +220V “ON” condition (use the 20V scale). A reading of 2.5V or greater indicates a +220V “OFF” condition.

Wiring Diagrams

Use the wiring diagrams in this section to trace a particular wire from its starting point to its final destination. This information is used for:

- Identifying the signal inputs and outputs throughout the printer
- Replacing individual wires
- General inspections

Table 8-55 lists the wiring diagrams described in this chapter.

Description	Page #
Power Connections	8-82
Controller Circuit Board	8-82
Print Engine Circuit Board	8-83
Bulkhead Circuit Board	8-84
RS232 Port 1 Wiring Diagrams	8-85
RS232 Port 2 Wiring Diagrams	8-88
RS485 Port 2 Wiring Diagrams	8-92
Basic I/O Wiring Diagrams	8-90
Exp I/O Logic Wiring Diagrams	8-94
Exp I/O Power Input Wiring Diagrams	8-94
Exp Opto I/O Wiring Diagrams	8-100
Exp I/O Alarm Relay Wiring Diagrams	8-98
Keyboard Cable Wiring Diagram	8-102
LCD Data and Backlight Wiring Diagrams	8-104
PD and Encoder Wiring Diagrams	8-106

Table 8-55: Wiring Diagrams

Power Connections

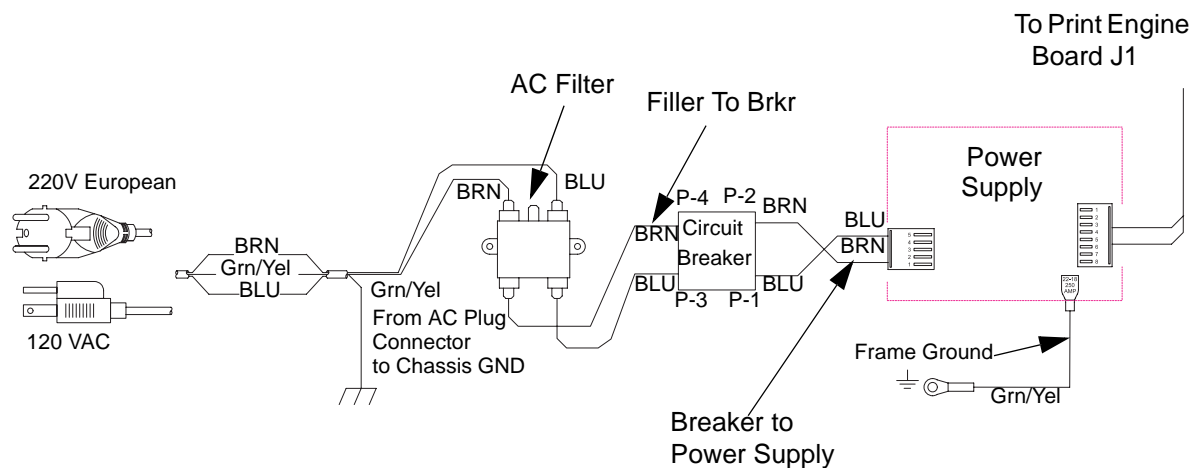


Figure 8-27: Power Connections Wiring Diagram

Controller Circuit Board

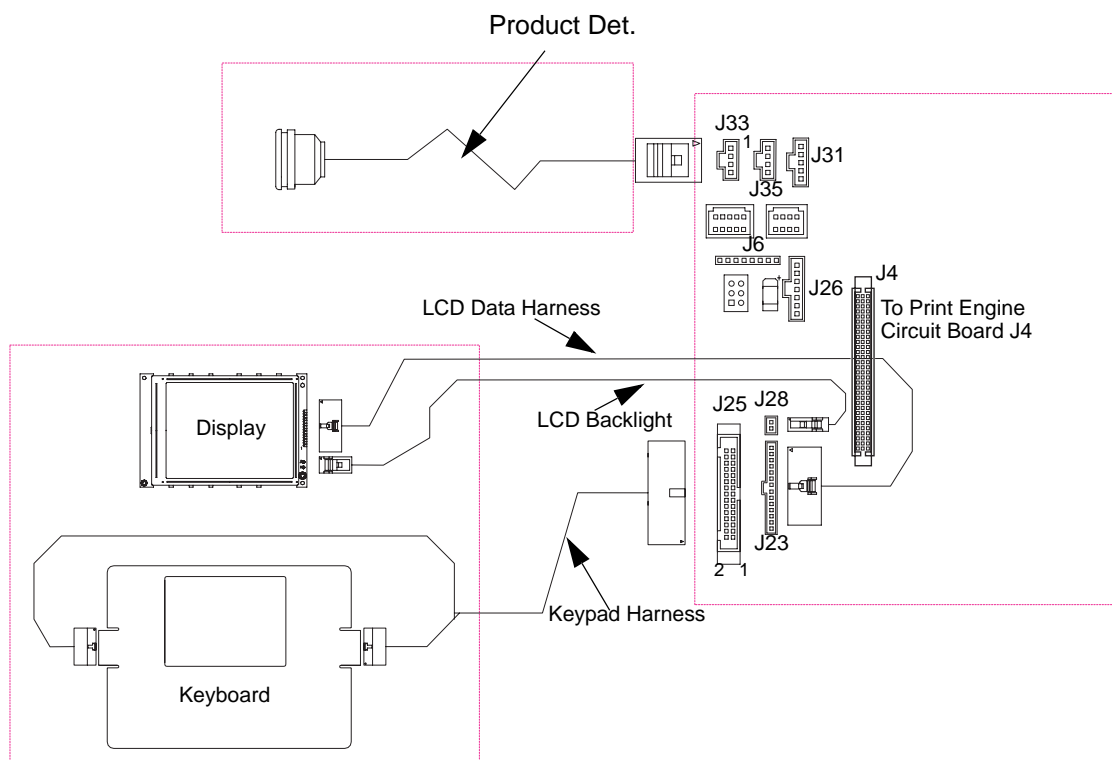


Figure 8-28: Controller Circuit Board Wiring Diagram

Print Engine Circuit Board

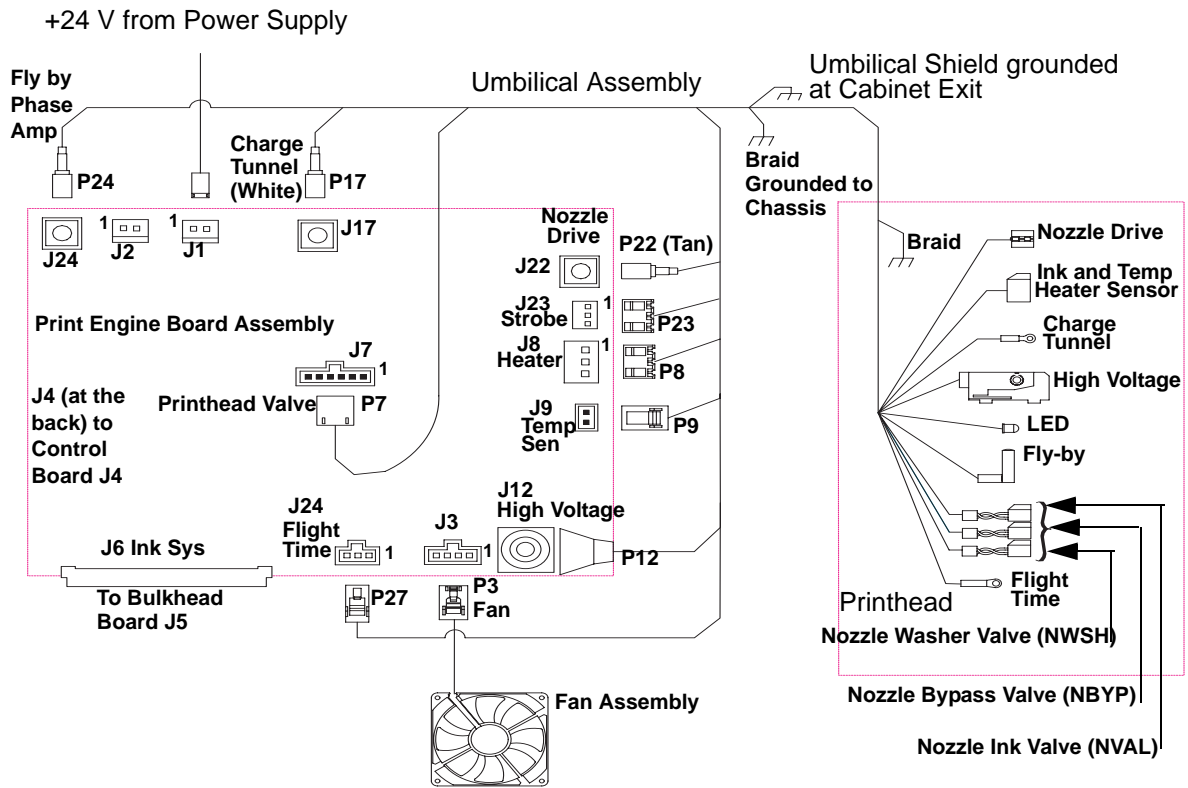


Figure 8-29: Print Engine Circuit Board Wiring Diagram

Bulkhead Circuit Board

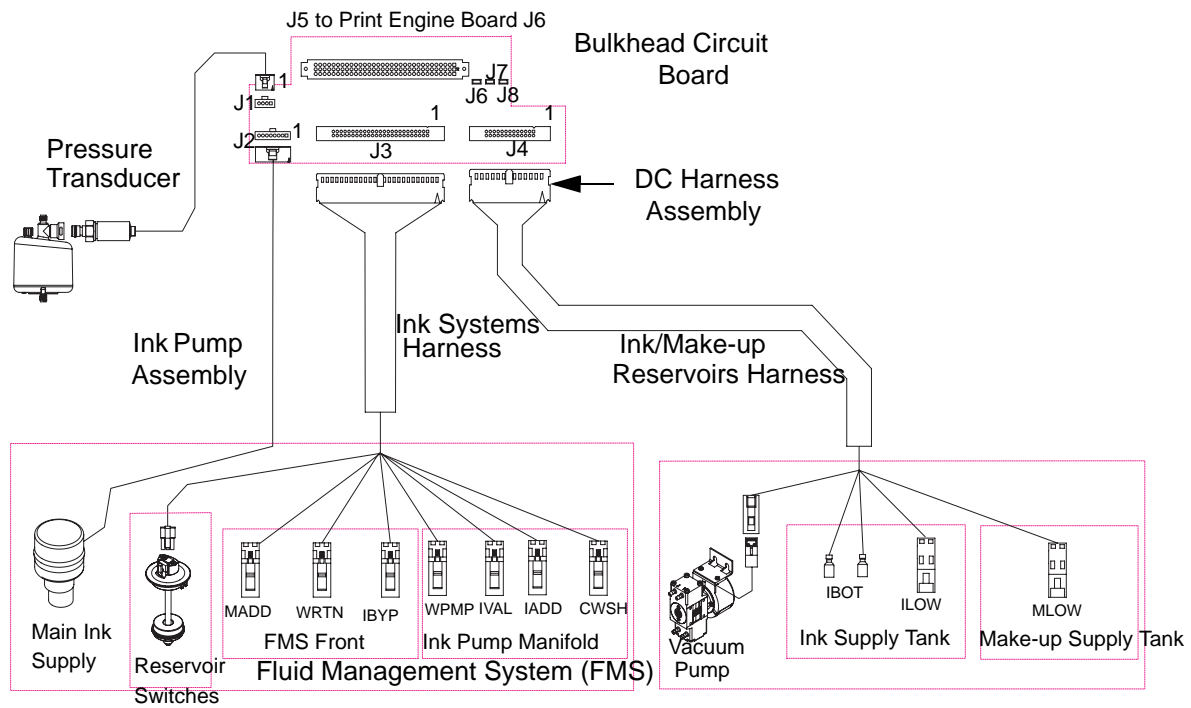


Figure 8-30: Bulkhead Circuit Board Wiring Diagram

RS232 Port 1 Wiring Diagrams

External RS232, Port 1 Cable 378757

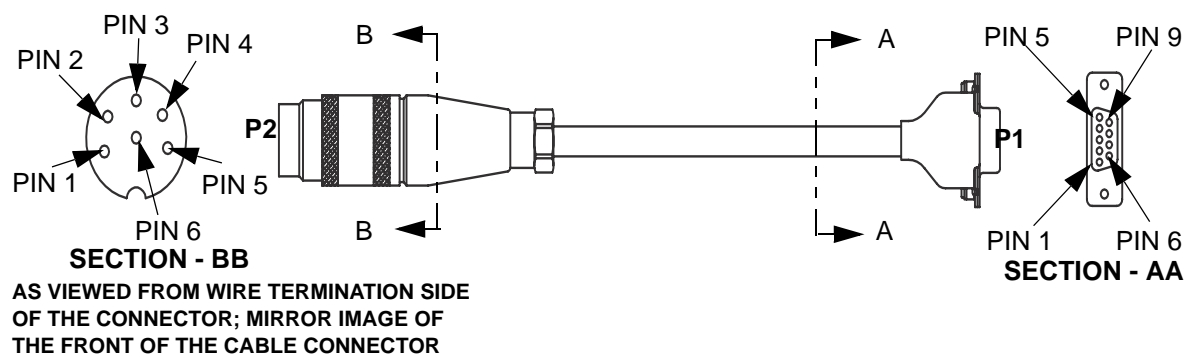


Figure 8-31: External RS232, Port 1 Cable 378757 Wiring Diagram

Table 8-56 lists the wiring details of the external RS232, Port 1 cable 378757 wiring diagram shown in Figure 8-31.

Wire End P2	Printer Signal	Color	PC Signal	P1
1	RTS	BRN	CTS	8
2	RX	RED	TX	3
3	TX	GRN	RX	2
4	GND	BLK	GND	5
5	CTS	WHT	RTS	7
6	DTR / +5V	BLU	DSR	6*
	NA	BLU	CD	1*
	NA	NA	DTR	4
	NA	BLU	RI	9*
SHELL	SHIELD/ DRAIN	NA	NA	SHELL

Table 8-56: External RS232, Port 1 Cable 378757 Wiring Chart

Note: * Indicates that they are connected together.

Internal RS232 Port 1 Cable 378691

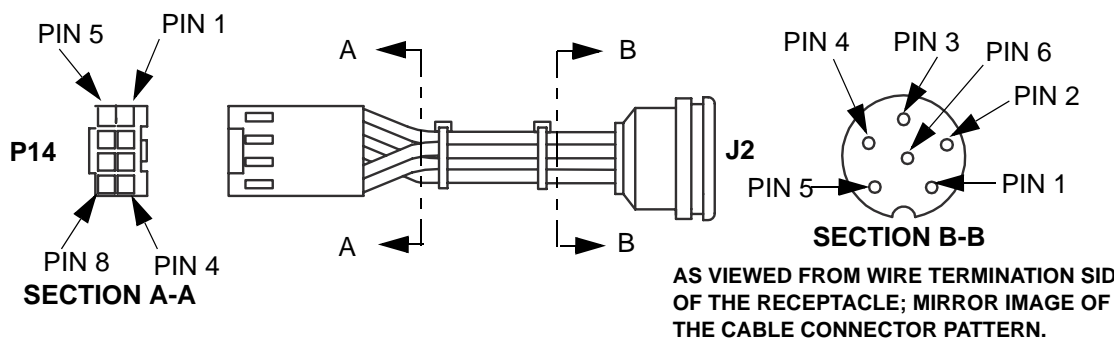


Figure 8-32: Internal RS232 Port 1 Cable 378691 Wiring Diagram

Note: Standard RS232 levels

Table 8-57 lists the wiring details of the internal RS232, Port 1 cable 378691 wiring diagram shown in Figure 8-32.

Wire End P14	Signal	Printer	J2
1	CTS	GRAY	5
2	RX	YEL	2
3	RTS	PURPLE	1
4	TX	ORANGE	3
5	GND	BLACK	4
6	GND	NONE	NC
7	SCN PWR (DTR)	RED	6
8	FRM GND (NC)	NONE	

Table 8-57: Internal RS232 Port 1 Cable 378691 Wiring Chart

External RS232 Port 1, Hardware Key, Short Cable 378803

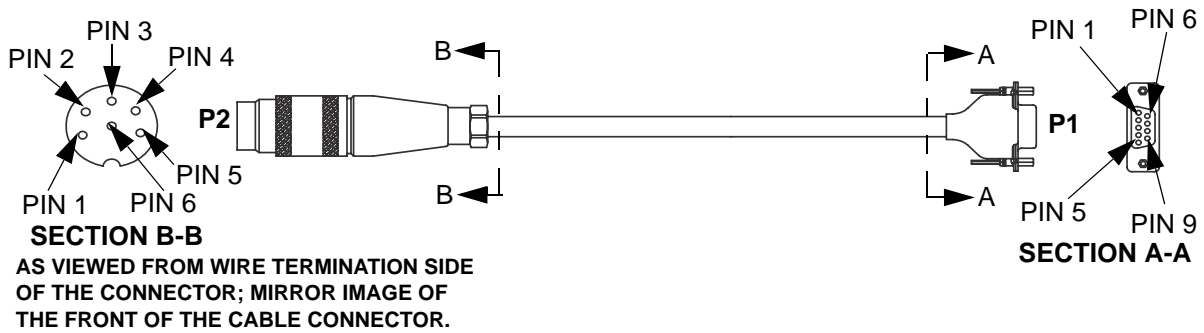


Figure 8-33: External RS232 Port 1, Hardware Key, Short Cable 378803 Wiring Diagram

Table 8-58 lists the wiring details of the external RS232, Port 1, hardware key, short cable 378803 wiring diagram shown in Figure 8-33.

Wire End P2	Printer Signal	Color	PC Signal	P1
1	RTS	BLU	CD	1 **
2	RX	GRN	RX	2
3	TX	RED	TX	3
4	GND	BLK	GND	5
5	CTS	WHT	RTS	7
6	DTR / + 5V	BRN	RI	9 **
	NA	NA	DSR	6
	NA	NA	CTS	8
	NA	BRN	DTR	4 **
SHELL	SHIELD / DRAIN	BARE	FRM/ GND	SHELL

Table 8-58: External RS232 Port 1, Hardware Key, Short Cable 378803 Wiring Chart

Note: ** Indicates that they are connected together

RS232 Port 2 Wiring Diagrams

Internal RS232, Port 2 Cable 378693

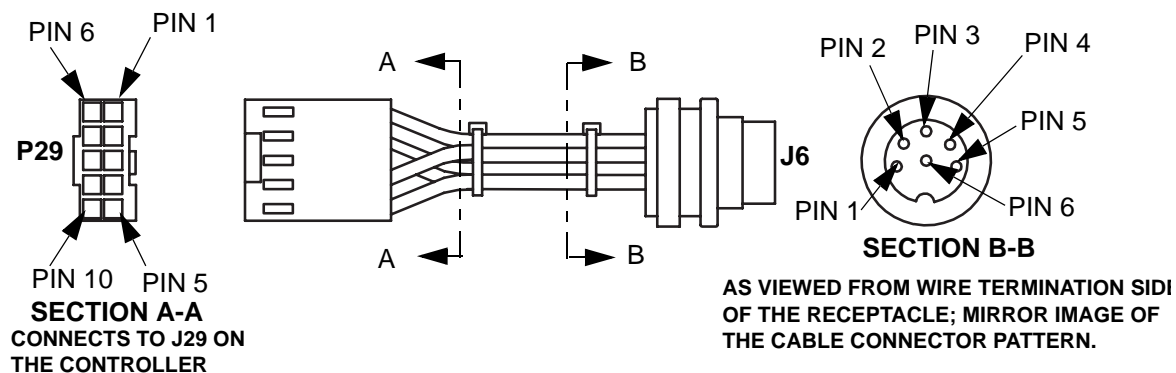


Figure 8-34: Internal RS232, Port 2 Cable 378693 Wiring Diagram

Table 8-59 lists the wiring details of the internal RS232, Port 2 cable 378693 wiring diagram shown in Figure 8-34.

Wire End P29	Signal	Color	J6
1	TX	ORANGE	3
2	RX	YEL	2
3	CTS	BROWN	5
7	232 GND	BLACK	4
8	RTS	BLUE	1
10	FRM GND (NC)	NONE	

Table 8-59: Internal RS232, Port 2 Cable 378693 Wiring Chart

External RS232, Port 2 Cable 378758

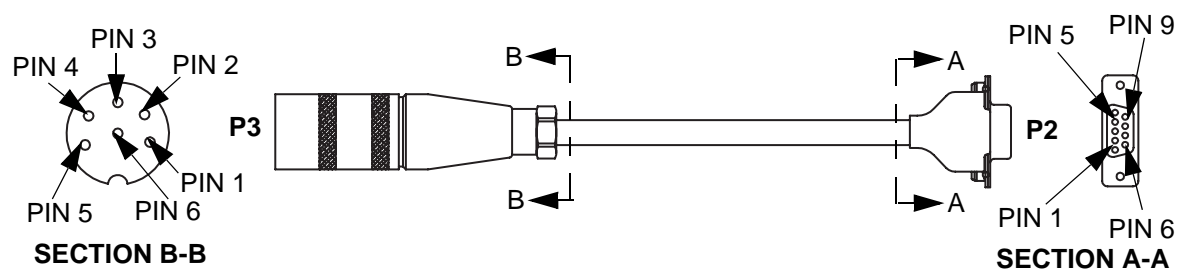


Figure 8-35: External RS232, Port 2 Cable 378758 Wiring Diagram

Note: Standard RS232 levels

Table 8-60 lists the wiring details of the external RS232, Port 2 cable 378758 wiring diagram shown in Figure 8-35.

Wire End P3	Printer Signal	Color	PC Signal	P2
1	RTS	BRN	CTS	8 *
2	RX	RED	TX	3
3	TX	GRN	RX	2
4	GND	BLK	GND	5
5	CTS	WHT	RTS	7
6	NA	BRN	CD	1 *
	NA	BRN	DSR	6 *
	NA	NA	DTR	4
	NA	NA	RI	9
SHELL	SHIELD/ DRAIN	NA	NA	SHELL

Table 8-60: External RS232, Port 2 Cable 378758 Wiring Chart

Note: * Indicates that they are connected together.

Basic I/O Wiring Diagrams

Internal Basic I/O Cable 378690

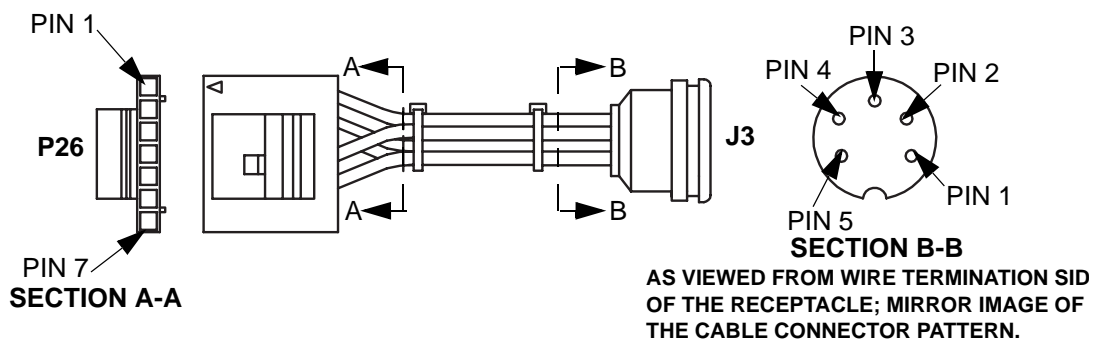


Figure 8-36: Internal Basic I/O Cable 378690 Wiring Diagram

Table 8-61 lists the wiring details of the internal basic I/O cable 378690 wiring diagram shown in Figure 8-36.

Wire End P26	Signal	Color	J3
1	Relay Common	BROWN	1
2	Relay NC	RED	2
3	Relay NO	GREEN	3
4	User IN8-	WHITE	5
5	User +12V Ref	NONE	
6	GND	BLACK	4
7	FRM GND (NC)	NONE	

Table 8-61: Internal Basic I/O Cable 378690 Wiring Chart

External Basic I/O Cable 378760

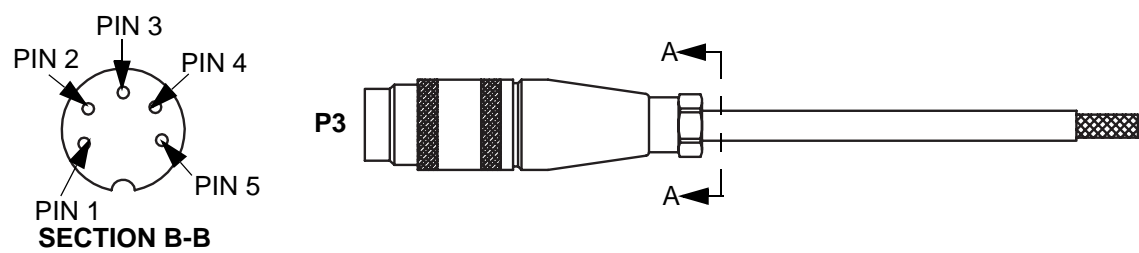


Figure 8-37: External Basic I/O Cable 378760 Wiring Diagram

Table 8-62 lists the wiring details of the external basic I/O cable 378760 wiring diagram shown in Figure 8-37.

P3	Signal	Color
1	Relay Common	BRN
2	Relay NC	RED
3	Relay NO	GRN
4	GND	BLK
5	User IN8-	WHT
SHELL	Shield/Drain	N/A

Table 8-62: External Basic I/O Cable 378760 Wiring Chart

RS485 Port 2 Wiring Diagrams

Internal RS485, Port 2 Cable 378690

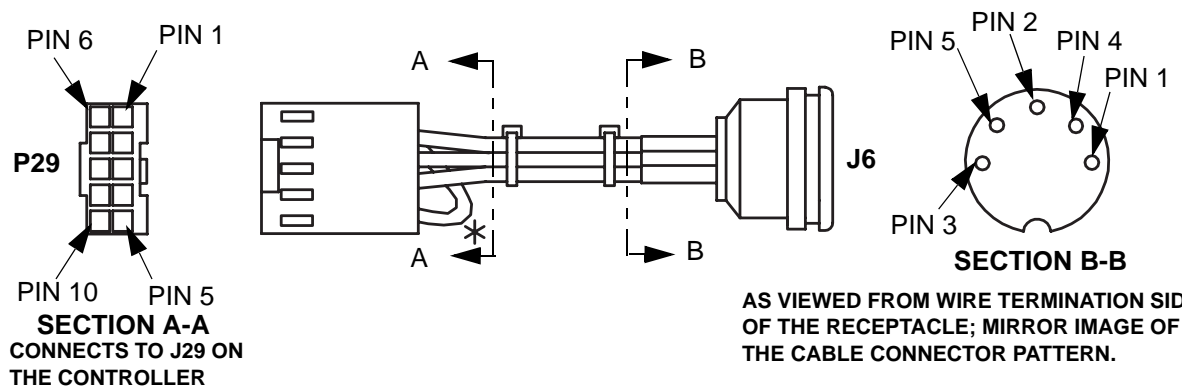


Figure 8-38: Internal RS485, Port 2 Cable 378690 Wiring Diagram

Table 8-63 lists the wiring details of the internal RS485, port 2 cable 378690 wiring diagram shown in Figure 8-38.

Wire End P29	Signal	Color	J6
	NONE	NONE	1
6	485 GND	BLACK	2
	NONE	NONE	3
4	485+	ORANGE	4
9	485-	YEL	5
10	FRM GND	NONE	
5 *	SEL 485-	BLU	
7 *	GND	BLU	

Table 8-63: Internal RS485, Port 2 Cable 378690 Wiring Chart

Note: * Indicates that they are connected together

External RS485, Port 2 Cable 378759

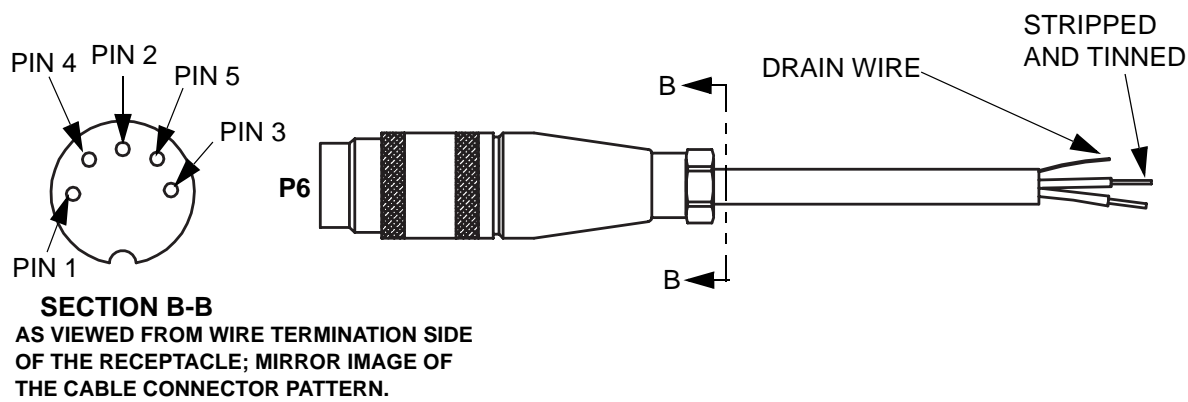


Figure 8-39: External RS485, Port 2 Cable 378759 Wiring Diagram

Note: Standard RS485 levels

Table 8-64 lists the wiring details of the external RS485, port 2 cable 378759 wiring diagram shown in Figure 8-39.

P6	Signal	Color
1		NONE
2	485 GND (UNUSED)	NONE
3		NONE
4	485+	WHT/BLU STRIPE
5	485-	BLU/WHT STRIPE
	SHIELD/DRAIN	BARE

Table 8-64: External RS485, Port 2 Cable 378759 Wiring Chart

Exp I/O Power Input Wiring Diagrams

Internal Expanded I/O Power Input Cable 378847

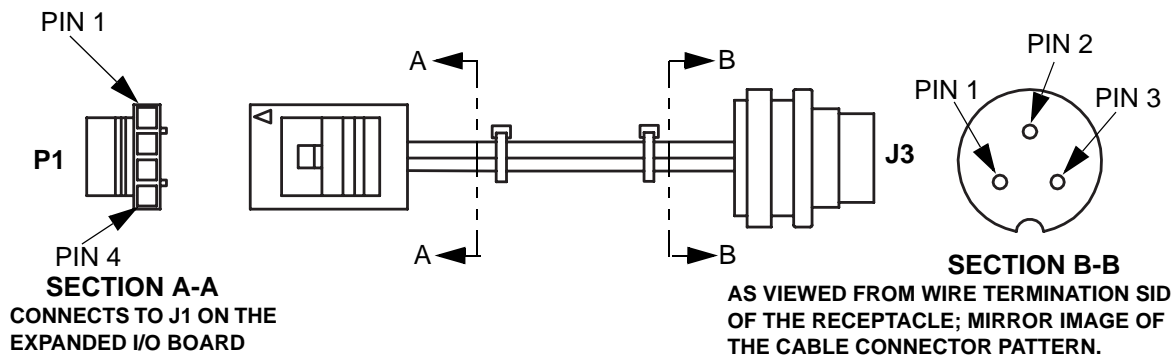


Figure 8-40: Internal Expanded I/O Power Input Cable 378847 Wiring Diagram

Table 8-65 lists the wiring details of the internal expanded I/O power input cable 378847 wiring diagram shown in Figure 8-40.

Wire End P1	Signal	Color	J3
1		NONE	1
2	EXTERNAL SUPPLY +	RED	2
3	EXTERNAL SUPPLY -	BLACK	3
4		NONE	

Table 8-65: Internal Expanded I/O Power Input Cable 378847 Wiring Chart

External Expanded I/O Power Input Cable 378848

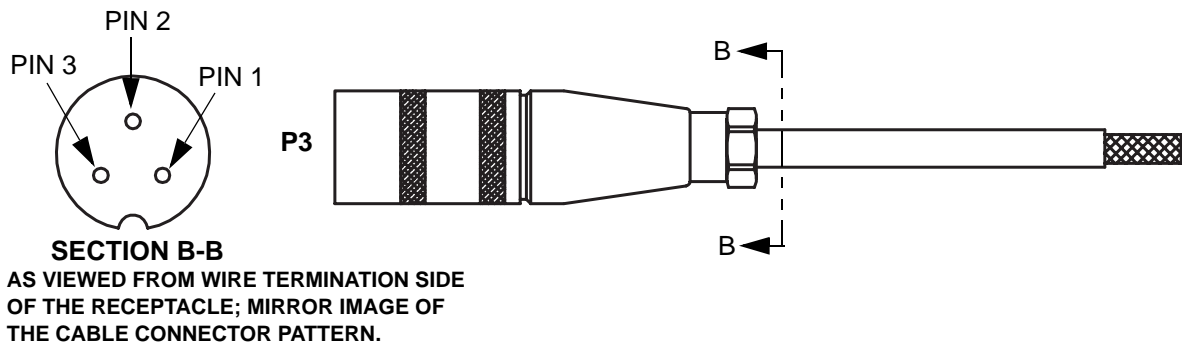


Figure 8-41: External Expanded I/O Power Input Cable 378848 Wiring Diagram

Note: Input supply voltage, +5 to +12 V, maximum

Table 8-66 lists the wiring details of the external expanded I/O power input cable 378848 wiring diagram shown in Figure 8-41.

P3	Signal	Color
1	DO NOT WIRE	WHT
2	EXTERNAL SUPPLY +	RED
3	EXTERNAL SUPPLY -	BLACK

Table 8-66: External Expanded I/O Power Input Cable 378848 Wiring Chart

Expanded I/O Logic Wiring Diagrams

Internal Expanded Logic Cable 378812

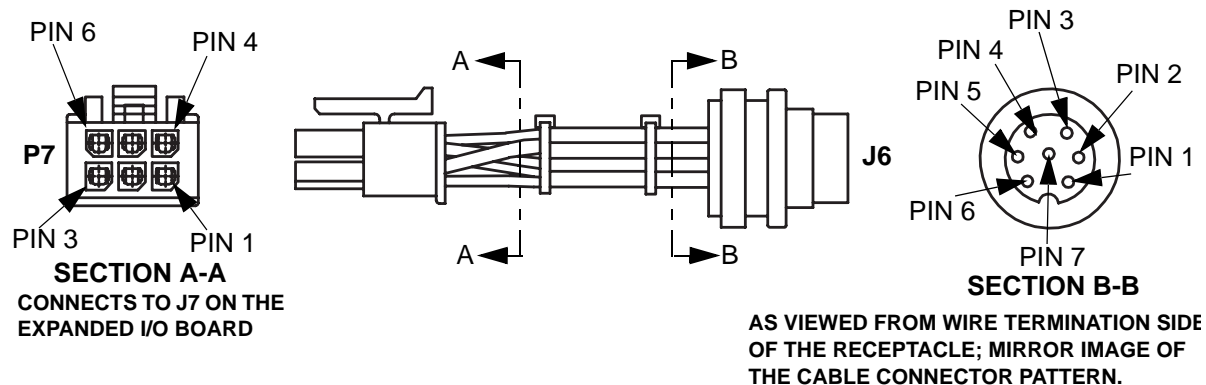


Figure 8-42: Internal Expanded Logic Cable 378812 Wiring Diagram

Table 8-67 lists the wiring details of the internal expanded logic cable 378812 wiring diagram shown in Figure 8-42.

Wire End P7	Signal	Color	J6
1	LOGIC_0-	BRN	1
4	LOGIC_7-	WHT	2
2	LOGIC_1-	RED	3
5	LOGIC_3-	GRN	4
3	LOGIC_2-	BLU	5
6	GND	BLK	6
	FRM GND (NC)	NONE	

Table 8-67: Internal Expanded Logic Cable 378812 Wiring Chart

External Expanded Logic Cable 378813

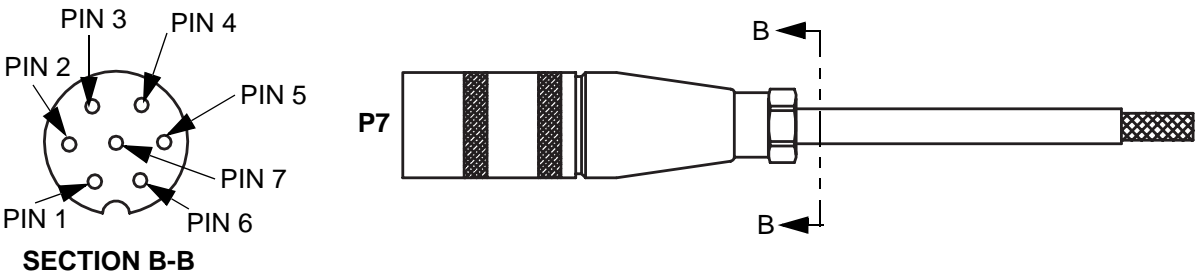


Figure 8-43: External Expanded Logic Cable 378813 Wiring Diagram

Note: Solid state output circuit, open collector, 24 V, DC Maximum at 100 MA maximum

Table 8-68 lists the wiring details of the external expanded logic cable 378813 wiring diagram shown in Figure 8-43.

P3	Signal	Color
1	LOGIC_0-	BRN
2	LOGIC_7-	WHT
3	LOGIC_1-	RED
4	LOGIC_3-	BLU
5	LOGIC_2-	GRN
6	GND	BLK
7	NO CONNECT	NONE
SHELL	SHIELD/DRAIN	BARE

Table 8-68: External Expanded Logic Cable 378813 Wiring Chart

Exp I/O Alarm Relay Wiring Diagrams

Internal Alarm Relay Cable 378770

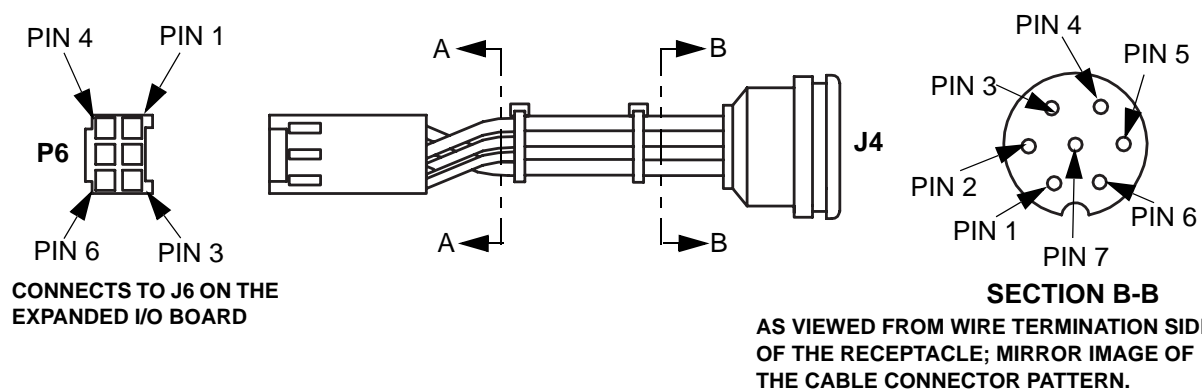


Figure 8-44: Internal Alarm Relay Cable 378770 Wiring Diagram

Table 8-69 lists the wiring details of the internal alarm relay cable 378770 wiring diagram shown in Figure 8-44.

Wire End P6	Color	Signal Name	J4
1	RED	REL1_NC	1
4	YEL	REL1_NO	2
2	WHITE	REL1_COM	3
5	BLACK	REL2_NC	4
3	BLUE	REL2_NO	5
6	GREEN	REL2_COM	6
	NA	NONE	7

Table 8-69: Internal Alarm Relay Cable 378770 Wiring Chart

External Alarm Relay Cable 378810

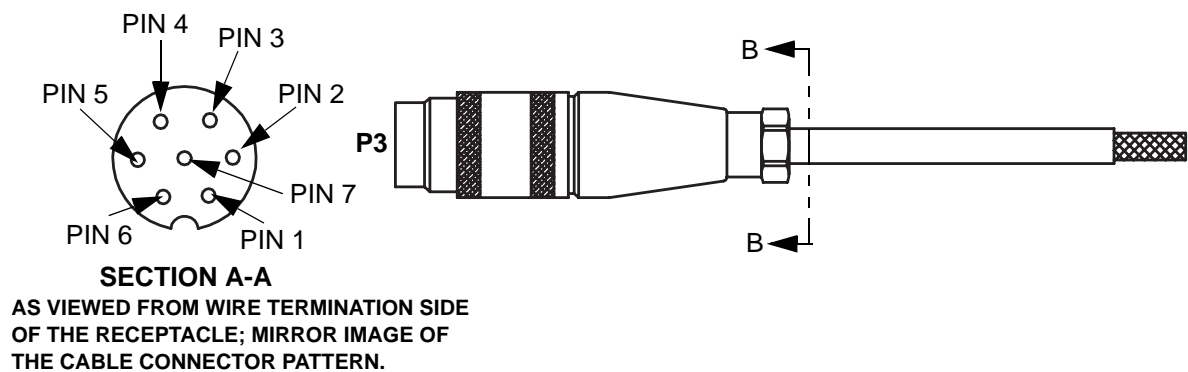


Figure 8-45: External Alarm Relay Cable 378810 Wiring Diagram

Note: Relay output circuit, 24 V, DC/AC at 100 MA maximum

Table 8-70 lists the wiring details of the external alarm relay cable 378810 wiring diagram shown in Figure 8-45.

P3	Signal	Color
1	REL 1_NC	WHT
2	REL 1_NO	RED
3	REL 1_COM	BLK
4	REL 2_NC	GRN
5	REL 2_NO	BLU
6	REL 2_COM	BRN
7	NO CONNECT	NONE
SHELL	SHIELD/DRAIN	BARE

Table 8-70: External Alarm Relay Cable 378810 Wiring Chart

Expanded Opto I/O Wiring Diagrams

Internal Expanded Opto I/O Cable 378769

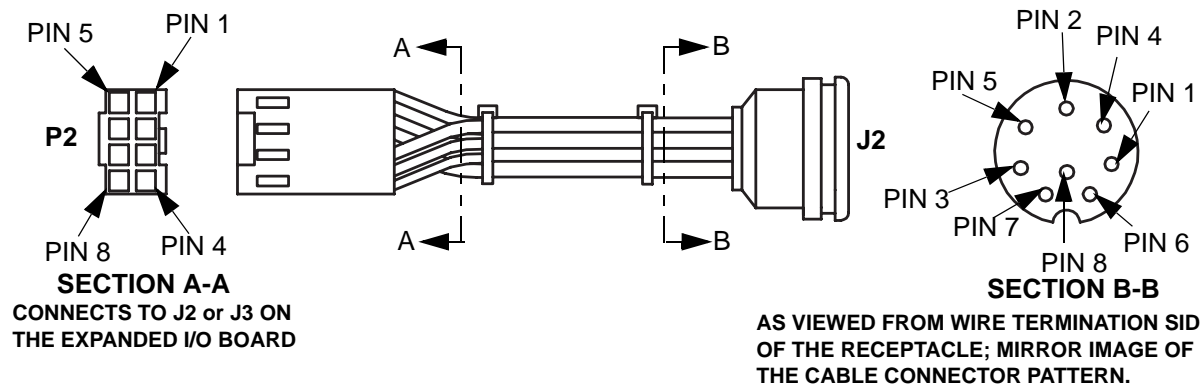


Figure 8-46: Internal Expanded Opto I/O Cable 378769 Wiring Diagram

Table 8-71 lists the wiring details of the internal expanded opto I/O cable 378769 wiring diagram shown in Figure 8-46.

Wire End P2	Color	Signal	J2
1	RED	BIT 0-	1
5	YEL	GND 0	2
2	WHITE	BIT 1-	3
6	BLACK	GND 1	4
3	BLUE	BIT 2-	5
7	GREEN	GND 2	6
4	BROWN	BIT 3-	7
8	ORANGE	GND 3	8

Table 8-71: Internal Expanded Opto I/O Cable 378769 Wiring Chart

External Expanded Opto I/O Cable 378804

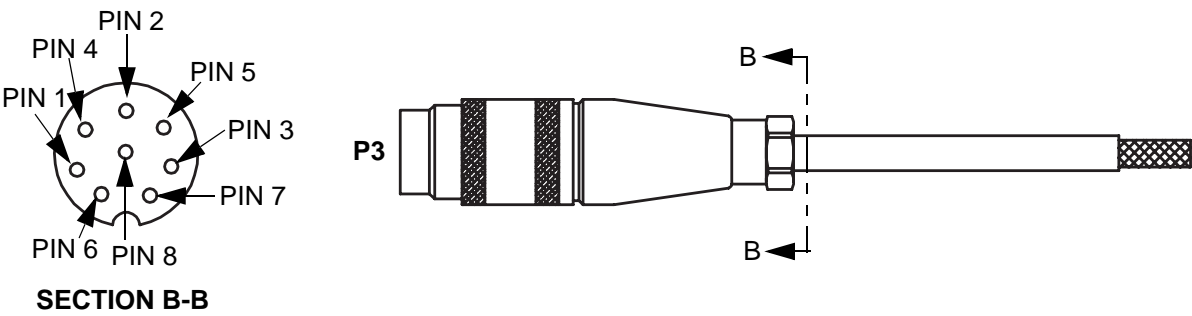


Figure 8-47: External Expanded Opto I/O Cable 378804 Wiring Diagram

Note: Input voltage +12 V, maximum

Table 8-72 lists the wiring details of the external expanded opto I/O cable 378804 wiring diagram shown in Figure 8-47.

P3	Signal	Color
1	BIT 0-	RED
2	GND 0	YEL
3	BIT 1-	WHT
4	GND 1	BLK
5	BIT 2-	BLU
6	GND 2	GRN
7	BIT 3-	ORG
8	GND 3	BRN
SHELL	SHIELD/DRAIN	BARE

Table 8-72: External Expanded Opto I/O Cable 378804 Wiring Chart

Keyboard Cable Wiring Diagram

Keyboard Cable 378635

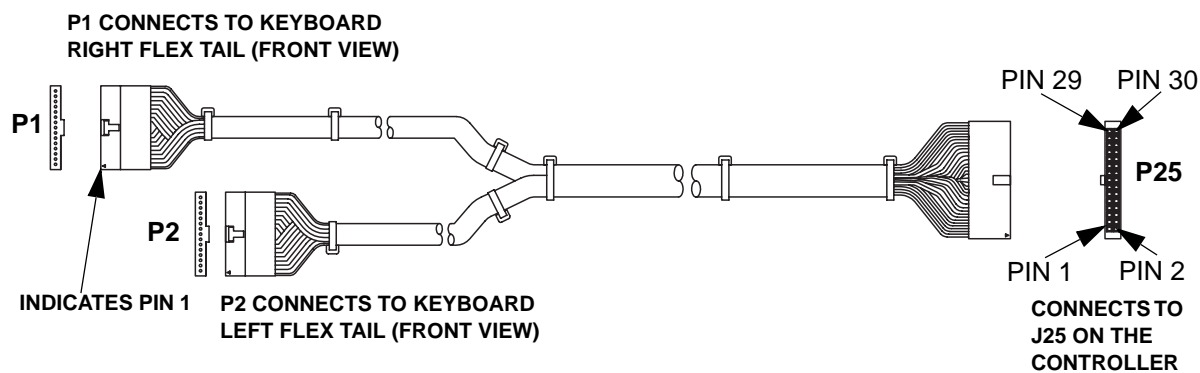


Figure 8-48: Keyboard Cable 378635 Wiring Diagram

Table 8-73 and Table 8-74 lists the wiring details of the keyboard cable 378635 wiring diagram shown in Figure 8-48.

Wire End P1	Signal	Wire End P25
1	RED ANODE	1
2	RED CATHODE-GND	3
3	YEL ANODE	5
4	YEL CATHODE-GND	7
5	GREEN ANODE	9
6	GRN CATH + Contrast	11
7	ROW 1	13
8	ROW 2	15
9	ROW 3	17
10	ROW 4	19
11	ROW 5	21
12	ROW 6	23
13	ROW 7	25
14	ROW 8	27
15	FRAME GND from Controller	29

Table 8-73: Keyboard Cable 378635 Wiring Chart

Wire End P2	Signal	Wire End P25
1	GND from Controller	2
2	SHIFT KEY	4
3	CONTROL KEY	6
4	ALT KEY	8
5	CONTRAST DOWN KEY	12
6	CONTRAST UP KEY	10
7	COLUMN 1	14
8	COLUMN 2	16
9	COLUMN 3	18
10	COLUMN 4	20
11	COLUMN 5	22
12	COLUMN 6	24
13	COLUMN 7	26
14	COLUMN 8	28
15	FRAME GND from Controller	30

Table 8-74: Keyboard Cable 378635 Wiring Chart

LCD Data and Backlight Wiring Diagrams

LCD Data Cable 378745

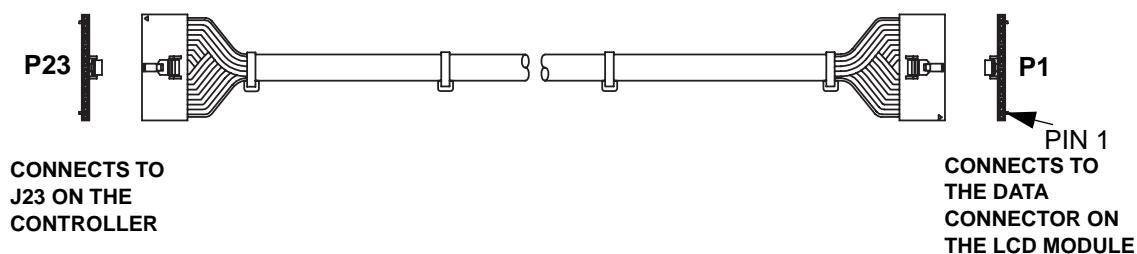


Figure 8-49: LCD Data Cable 378745 Wiring Diagram

Table 8-75 lists the wiring details of the LCD data cable 378745 wiring diagram shown in Figure 8-49.

Wire End P23	Signal	Wire End P1
1	DATA 0	1
2	DATA 1	2
3	DATA 2	3
4	DATA 3	4
5	LCD_ON+	5
6	FLM	6
7	M	7
8	LP	8
9	CP	9
10	+5 VOLT	10
11	GND	11
12	V (LCD)	12
13	V (ADJ)	13
14	FRAME GND	14

Table 8-75: LCD Data Cable 378745 Wiring Chart

LCD Backlight Cable 378746



Figure 8-50: LCD Backlight Cable 378746 Wiring Diagram

Table 8-76 lists the wiring details of the LCD data cable 378746 wiring diagram shown in Figure 8-50.

Wire End "P" LED	Signal	Wire End "P28" CNTL BRD
1	LED CATHODE	2
2	NC	NA
3	LED ANODE	1

Table 8-76: LCD Backlight Cable 378746 Wiring Chart

PD and Encoder Wiring Diagrams

Internal PD Cable 378688

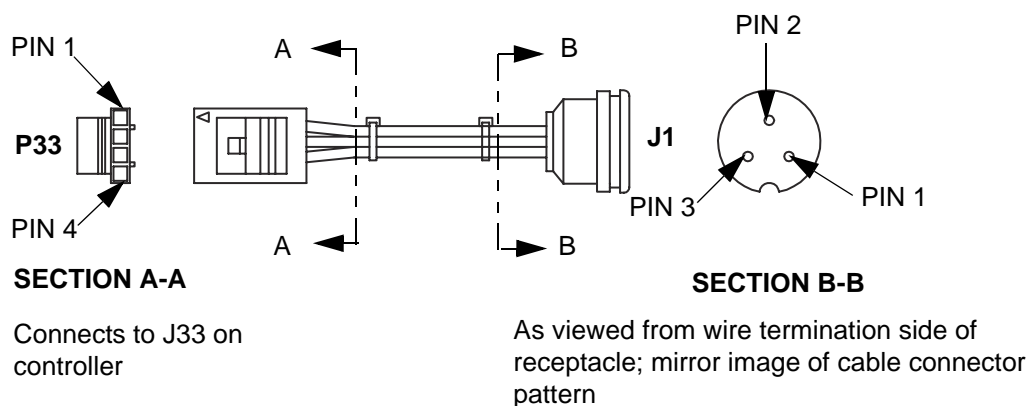


Figure 8-51: Internal PD Cable 378688 Wiring Diagram

Table 8-77 lists the wiring details of the internal PD cable 378688 wiring diagram shown in Figure 8-51.

Wire End P33 & 35	Signal	Color	J1
1	+12 V Supply	RED	1
2	PD Signal	YELLOW	2
3	GND	BLACK	3
4	FRAME GND (NC)	NONE	

Table 8-77: Internal PD Cable 378688 Wiring Chart

Internal Encoder Cable 378689

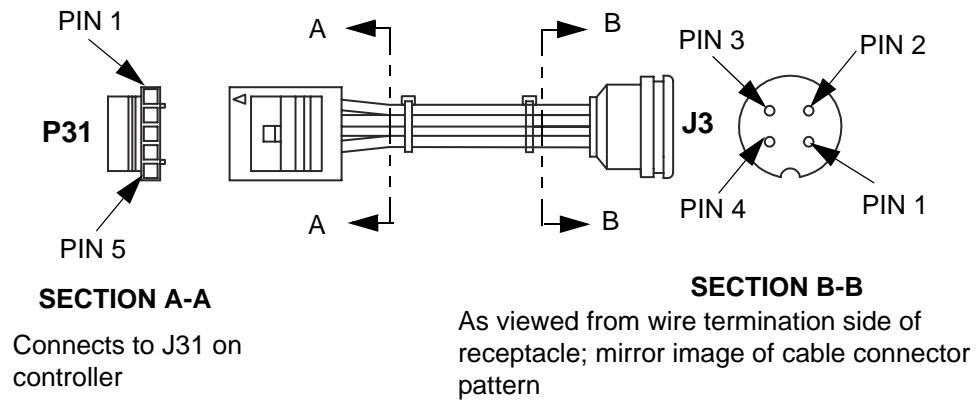


Figure 8-52: Internal Encoder Cable 378689 Wiring Diagram

Table 8-78 lists the wiring details of the internal encoder cable 378689 wiring diagram shown in Figure 8-52.

Wire End P31	Signal	Color	J3
1	+ 12 V Supply	RED	1
2	ENC A Signal	YELLOW	2
3	ENC B Signal	BLUE	3
4	GND	BLACK	4
5	FRAME GND (NC)	NONE	

Table 8-78: Internal Encoder Cable 378689 Wiring Chart

External Encoder Cable 378774

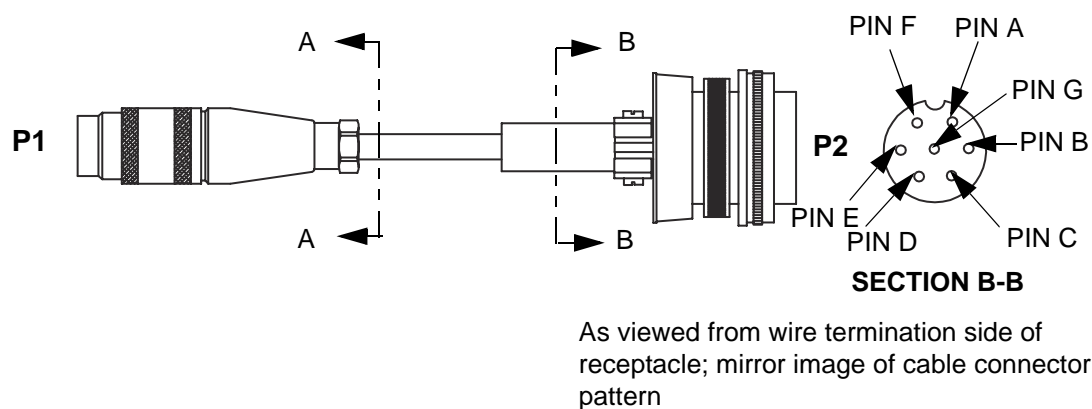


Figure 8-53: External Encoder Cable 378774 Wiring Diagram

Table 8-79 lists the wiring details of the external encoder cable 378774 wiring diagram shown in Figure 8-53.

Wire End P1	Signal	Color	P2
1	+12 V	RED	D
2	ENC A	WHITE	A
3	ENC B	GREEN	B
4	GND	BLACK	F
	A-	NA	C
	B-	NA	E
SHELL	SHIELD	NA	G

Table 8-79: External Encoder Cable 378774 Wiring Chart

Tools, Kits, Accessories, and Supplies

9

Tool and Spare Parts Kits

There are several tool and spare parts kits consisting of normal maintenance items for the Videojet 1310 printer. The individual items in each spare parts kit are also available separately.

The Service Tool Kit (P/N 378228)

Table 9-1 lists the service tool kit items and their part numbers.

Part Number	Description
5260001115	Pipe pliers
5260001112	Tube cutter
5260001119	Allen hex driver set
5260001108	Pozi drive screwdriver #1
5260001116	Pozi drive screwdriver #0
1000370224	Nozzle adjusting tool
5260001107	Reverse action tweezers
5000118001	Syringes, with slip tips
526-0001-123	Din socket wrench
500-0048-133	Electronics compartment key
21000170	Blow bulb
203023	Magnifier, illuminated 3.5x
355269	Magnifier, 10X
186514	Hex Key, 0.050"
219239	Hex Key, 0.036"
378971	Wrench, Charge Tunnel

Table 9-1: Service Tool Kit Parts List

The Start-up Kit (P/N 378232)

Table 9-2 lists the start-up kit items and their part numbers.

Part Number	Description	Qty
SP212321	Reduran hand cleaner	1
-	Gloves, latex	1
355269	Magnifier Loupe 10X	1
202047	Wash Bottle	1
-	Safety Glasses	1
-	Priming Bulb - 900 Series	1
217035	Wash Pan, tin plated	1

Table 9-2: Start-up Kit Parts List

The 5000 Hour Filter Kit (P/N 378756)

Table 9-3 lists the 5000 hour filter kit items.

Part Number	Description	Qty
-	Printhead Filter	1
-	Fan Filter	5
-	Main Ink Filter	1
-	Reservoir Filter	2

Table 9-3: 5000 Hour Filter Kit Parts List

The Basic Spare Parts Kit (P/N 378818)

Table 9-4 lists the basic spare parts kit items and their part numbers.

Part Number	Description	Qty
378756	5000 hour filter kit	1
SP378675	X-flow Nozzle Assembly, Packaged	1
217535	2-way valve, 90°	1
378121	3-way valve	1
SP378695	Ink Return Block	1
500-0048-133	Electronics Door Key	1
210502	Check Valve	2
218926	Battery, Lithium, 3V	1

Table 9-4: Basic Spare Parts Kit Parts List

Part Number	Description	Qty
356148	Tube, Coupling	1
370068	Screw, Special	1

Table 9-4: Basic Spare Parts Kit Parts List (Continued)

The Comprehensive Spare Parts Kit (P/N 378768)

Table 9-5 lists the comprehensive spare parts kit items and their part numbers.

Part Number	Description	Qty
378818	Basic Spare Parts Kit	1
378823	Charge Tunnel Kit	1
SP378680	Fan Assembly	1
SP216514	Power Supply Kit	1
SP378705	Cap and Stem Assembly	1
378828	Flush Pump Kit	1
SP378727	Pressure Transducer Kit	1
378092	Float Assembly Reservoir	1
210611	Breaker Circuit, 2PDT, 1.3A (power switch)	1
390683	Check Valve, Nozzle Wash Assembly	1
SP378709	Pump, Ink	1
378715	Washer Pump Cap Assembly	1
378730	Vacuum Pump Assembly	1
378934	Heater, Packaged Assembly	1
378956	High Voltage Arm and Ground Plate Assembly	1
378958	Printhead Electrical Component Kit	1

Table 9-5: Comprehensive Spare Parts Kit Parts List

Accessories

Cleaning Accessories

Printhead Holder Assembly (378974)

Table 9-6 lists the parts of the printhead holder assembly.

Part Number	Description
-	Screw, Knob M6 x 12
-	Holder, printhead adapter
-	Clamp, printhead holder

Table 9-6: Printhead Holder Assembly Parts List

Wash Pan

Table 9-7 lists the part number of the wash pan.

Part Number	Description
217035	Wash Pan

Table 9-7: Wash Pan

Wash Bottle

Figure 9-1 shows the wash bottle.

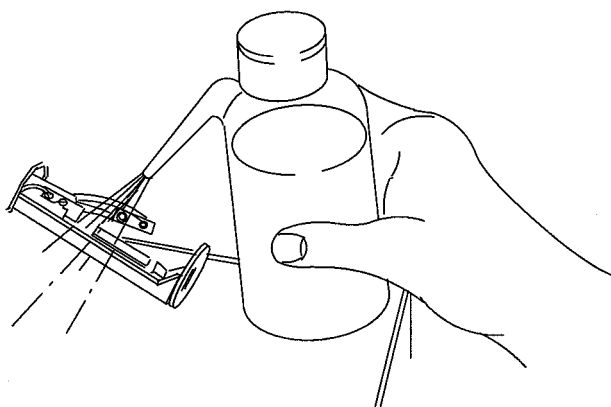


Figure 9-1. Wash Bottle

Table 9-8 lists the part number of the wash bottle.

Description	Part Number
Wash Bottle	202047

Table 9-8: Wash Bottle

Reduran Hand Cleaner

Table 9-9 lists the part number of the reduran hand cleaner.

Description	Part Number
Reduran Hand Cleaner	SP212321

Table 9-9: Reduran Hand Cleaner

Alert Lights

Figure 9-2 shows the alert lights.

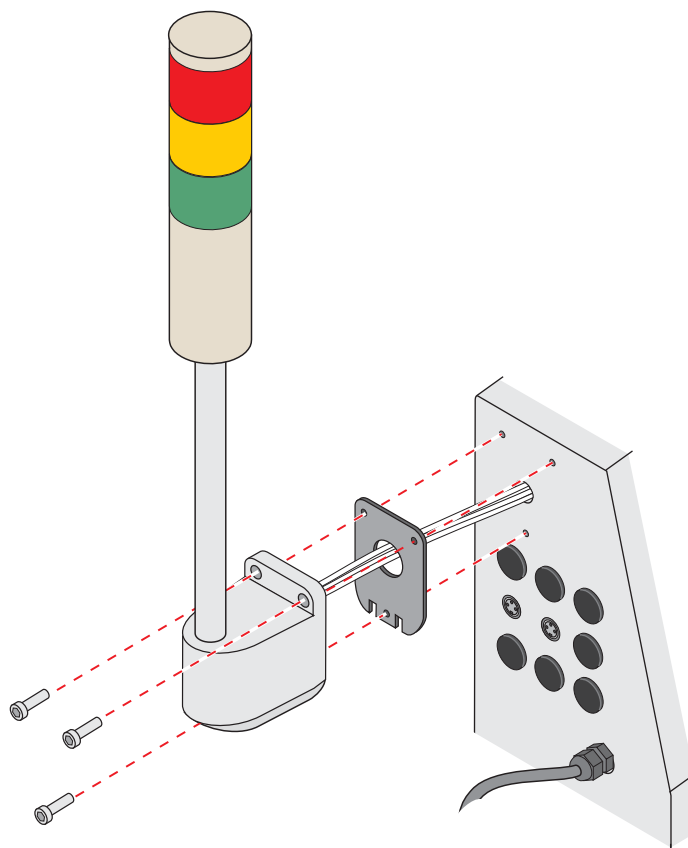


Figure 9-2. Tri-color Alert Lights Kit (P/N 378771)

Table 9-10 lists the two alert light kits part numbers available for use with the Videojet 1310.

Part number	Description
378771	Tri-Color alert light
378772	Strobe alert light

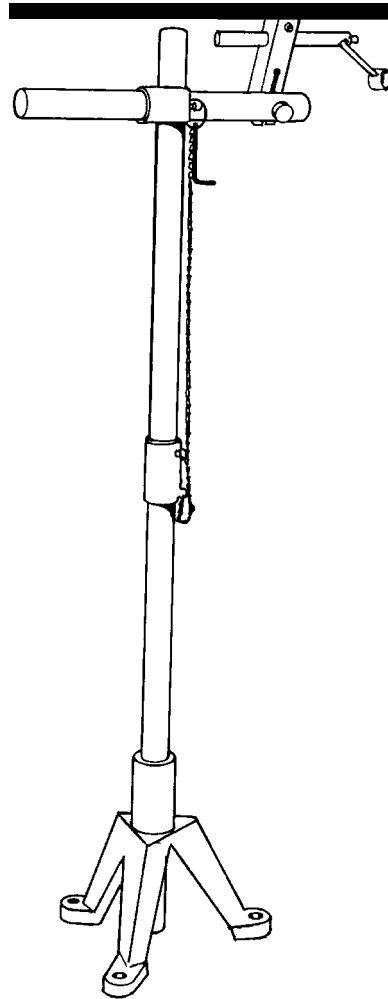
Table 9-10: Alert Lights Parts List

Printhead and Printer Stands

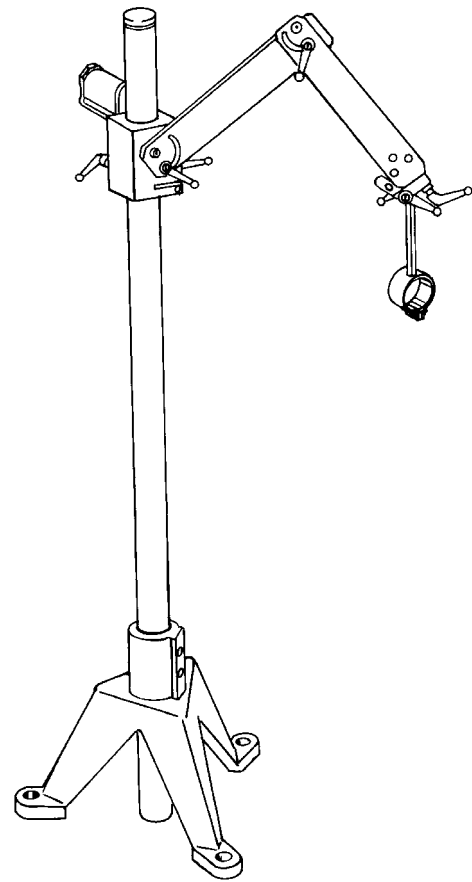
Note: To maintain regulatory approval, the printhead stand must be bolted to the floor, conveyor, or other stable foundation.

Printhead Stands

Figure 9-3 shows the printhead stands.



Printhead Stand, Adjustable



Printhead Stand, Quick Setup

Figure 9-3. Printhead Stand

Table 9-11 lists the part numbers of the printhead stands.

Part Number	Description
343840	Printhead Stand, Adjustable
800013	Printhead Stand, Quick Setup

Table 9-11: Printhead Stand Parts List

Printer Stands

Figure 9-4 shows the mobile floor stand.

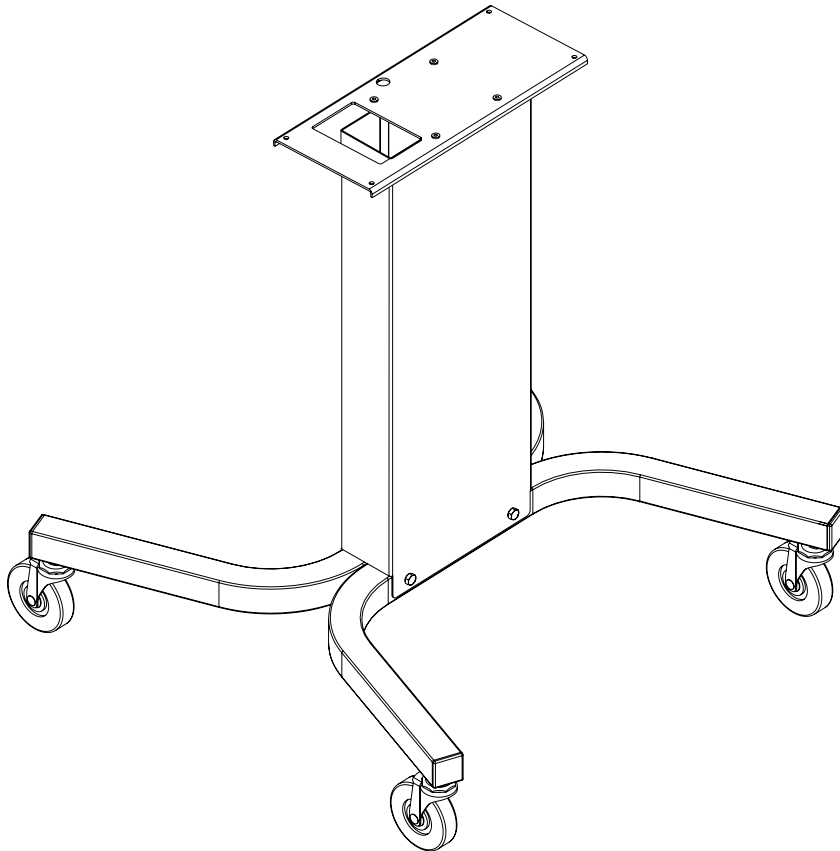


Figure 9-4. Mobile Floor Stand

Figure 9-5 shows the table top stand.

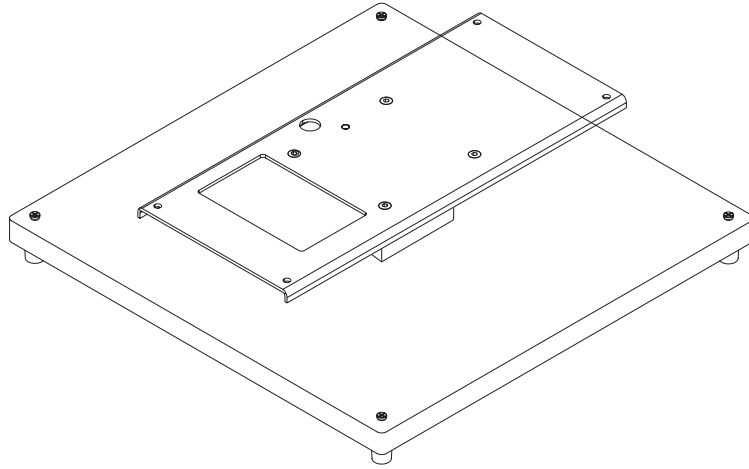


Figure 9-5: Table Top Stand

Figure 9-6 shows the stationary floor stand.

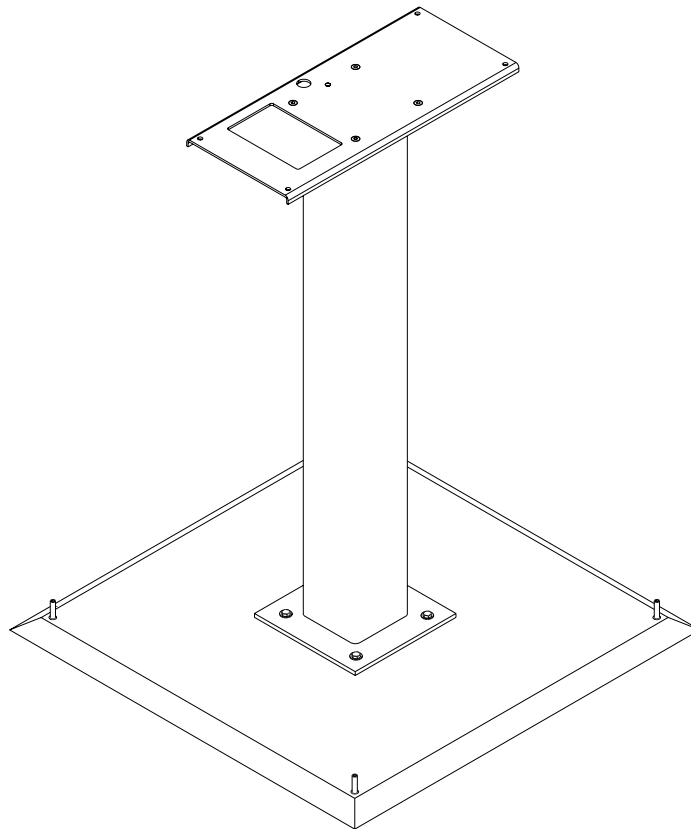


Figure 9-6: Stationary Floor Stand

Table 9-12 lists the part numbers of the printer stands.

Part Number	Description
378158	Table Top Stand
378155	Stationary Floor Stand
378766	Mobile Floor Stand

Table 9-12: Printer Stands Parts List

Service Tray

Figure 9-7 shows the service tray.

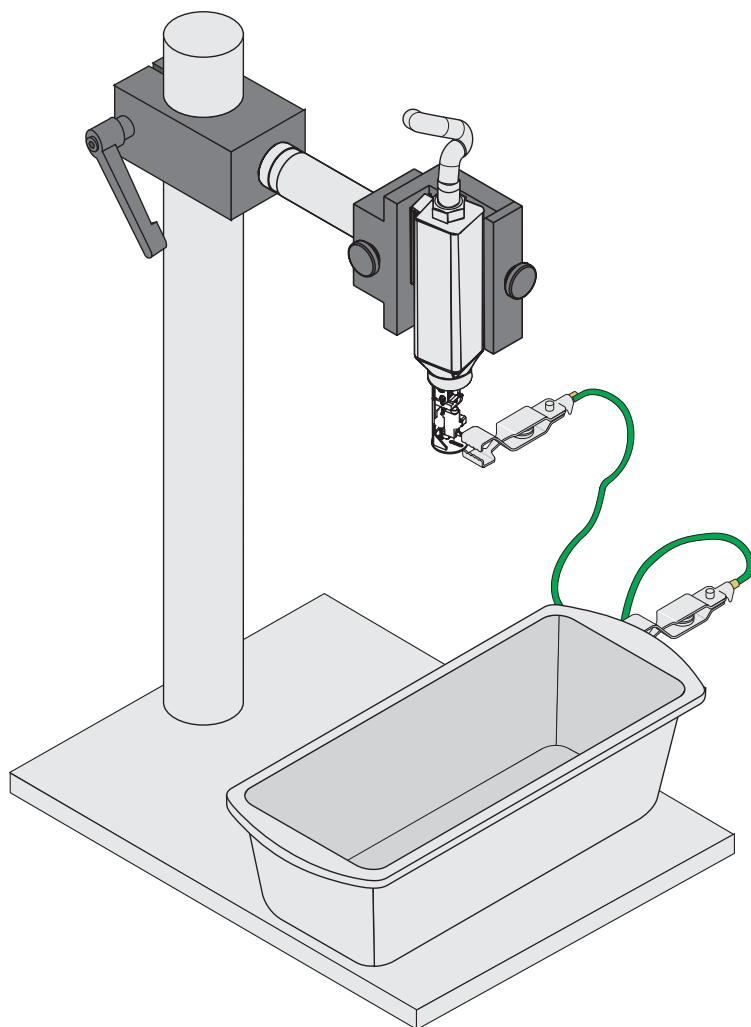


Figure 9-7: Printhead Wash Station with Steel Cleaning Pan

Table 9-13 lists the service tray part numbers.

Description	Part Number
Cleaning Pan, Steel	217035
Printhead Wash Station	378337
Printhead Holder Assembly	378974

Table 9-13: Service Tray Parts list

Port and Cable Kits

Most of the printer's optional input and output ports are available as kits that include the port itself and the internal cable that connects to the printer's circuit boards.

Figure 9-8 shows the cable locations on the printer.

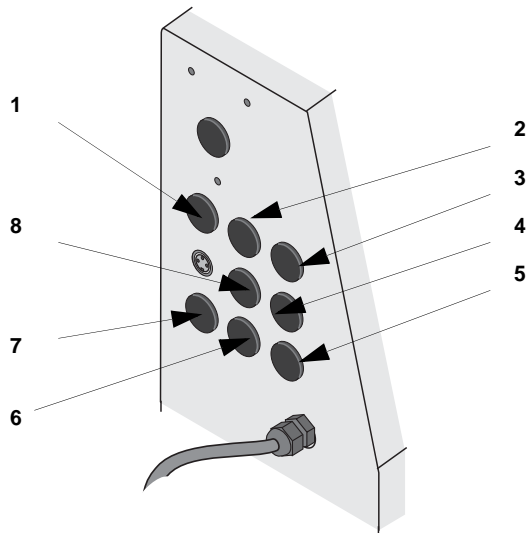


Figure 9-8. Cable Locations

Table 9-14 lists the part numbers of the port and cable kits.

Key	Part Number	Part Name
1		Print trigger 2 port
2	378811	Alarm relay port and cable kit ¹
	378814	Opto-isolated “expanded I/O logic” port and cable kit ¹
3	378802	Basic input/output port and cable kit
4	378806	RS-232 “COMM 1” port and cable kit ²
5	378817	RS-232 “COMM 2” port and cable kit
	378807	RS-485 port and cable kit
6,7	378805	Message Select “I/O A and I/O B” port and cable kit ¹ (includes both ports)
8		Shaft Encoder port. This port is included with the shaft encoder kits listed on page 9-14.
	378819	Expanded I/O PCB (must be installed to use items 2, 6 and 7)

Table 9-14: Port and Cable Kits Parts List

1. Expanded I/O PCB (P/N 378818) must be installed before this cable kit can be used
2. This port is also included with the handheld scanner (P/N 378775).

Product Detectors and Detector Accessories

Table 9-15 lists a number of product detector kits and their part numbers, that are available for use with the Videojet 1310.

Part number	Description
375085-08	Medium range proximity, beam make, detector
375085-09	Retro-reflective, beam break, detector
375085-10	Proximity fiber optic, beam make, adapter detector
375085-11	Small part proximity fiber optic, beam make, adapter detector, bifurcated, 0.046" (1.17 mm) diameter tip
375085-12	Through beam fiber optic adapter detector, beam break, 0.125" (3.17 mm) diameter tip
375085-13	Proximity fiber optic Registration Mark Detector, beam make, 0.125" (3.17 mm) diameter tip
375085-14	Retro-reflective fiber optic Transparent Object Detector, beam break, 0.125" (3.17 mm) diameter tip with reflector
40331830	Inductive proximity product sensor

Table 9-15: Product Detectors and Detector Accessories Parts List

Encoders and Encoder Accessories

Table 9-16 lists the shaft encoders and their part numbers that are available for use with the Videojet 1310.

Part number	Description
378815	Universal Encoder Kit, 1800 PPR, 3/8" shaft
378821	Universal Encoder Kit, 3600 PPR, 3/8" shaft
378774	Cable, External Shaft Encoder
378689	Cable, Internal Shaft Encoder
378819	Kit, Expansion I/O Board

Table 9-16: Encoders and Encoder Accessories Parts List

Networking Accessories

Table 9-17 lists the accessories and its part number for networking the printer using Videojet's *Connector* software.

Part number	Description
378817	RS-485 port kit (includes both internal and external cables)

Table 9-17: Networking Accessories Part List

Programming Accessories

Service Key, Unprogrammed (378816)

Table 9-18 lists the parts of the unprogrammed service key.

Part number	Description
-	DB9 Key
-	CABLE ASS'Y INTERNAL PORT 1 RS232
-	CABLE EXTERNAL 232

Table 9-18: Unprogrammed Service Key Parts List

Compact Flash Cards

Table 9-19 lists the part numbers of the compact flash card.

Part number	Description
219159	Programmer, Compact Flash Card
218920	Blank, Compact Flash Card

Table 9-19: Compact Flash Cards Parts List

Power Accessories

Power Conditioner

Figure 9-9 shows the power conditioner.

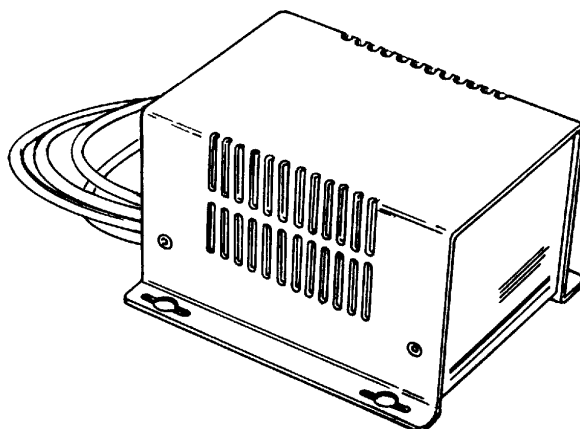


Figure 9-9. Power Conditioner

Table 9-20 lists the part number of the power conditioner.

Part Number	Description
356841-02	Power Conditioner, 120 VAC

Table 9-20: Power Conditioner Part List

Power supply, uninterruptible

Table 9-21 lists the part number of the uninterruptible power supply.

Part Number	Description
80000008	Power supply, uninterruptible

Table 9-21: Uninterruptible Power Supply

Expanded I/O Power Input Cable Kit

Table 9-22 lists the part number of the expanded I/O power input cable kit.

Part Number	Description
378846	Kit, cable, expanded I/O power input

Table 9-22: Expanded I/O Power Input Cable Kit Part List

Miniature Relay

Table 9-23 lists the part number of the miniature relay.

Part Number	Description
217782	Relay, miniature, SPDT, 24 V, 2 A

Table 9-23: Miniature Relay Part List

Miscellaneous

Magnifier, Loupe Subassembly

Figure 9-10 shows the magnifier, loupe subassembly.

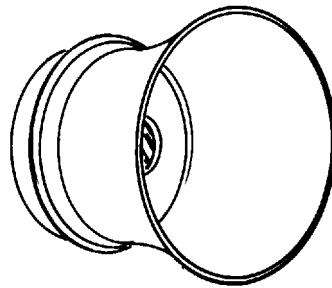


Figure 9-10. Magnifier, Loupe Subassembly

Table 9-24 lists the part number of the magnifier, loupe subassembly.

Part Number	Description
355269	Magnifier, Loupe Subassembly

Table 9-24: Magnifier, Loupe Subassembly Part List

Positive Air Dryer

Table 9-25 lists the part number of the positive air dryer.

Part Number	Description
378937	Dryer, Positive air

Table 9-25: Positive Air Dryer Part List

Reservoir Plug

Table 9-26 lists the part number of the reservoir plug.

Part Number	Description
378977	Plug, reservoir

Table 9-26: Reservoir Plug Part List

Programmable Counter

Table 9-27 lists the part number of the programmable counter.

Part Number	Description
356844	Programmable counter

Table 9-27: Programmable Counter Part List

Technical Documentation

Table 9-28 lists the technical documents and their part numbers.

Part Number	Description
361541-01	Service manual (includes IPB)
361541-21	Service manual UK (includes IPB)
361540-01	Operators Manual, English
361540-02	Operators Manual, French
361540-03	Operators Manual, German
361540-04	Operators Manual, Spanish
361540-05	Operators Manual, Brazil
361540-06	Operators Manual, Japanese
361540-08	Operators Manual, Italian
361540-09	Operators Manual, Dutch
361540-10	Operators Manual, Chinese
361540-21	Operators Manual, UK
361540-07	Operators Manual, Russian
361540-11	Operators Manual, Arabic
361540-12	Operators Manual, Korean
361540-13	Operators Manual, Thai

Table 9-28: Technical Documentation

Part Number	Description
361540-16	Operators Manual, Finnish
361540-17	Operators Manual, Swedish
361540-18	Operators Manual, Danish
361540-23	Operators Manual, Polish
361540-24	Operators Manual, Turkish
361540-25	Operators Manual, Czech
361540-26	Operators Manual, Hungarian
361540-33	Operators Manual, Vietnamese
361540-34	Operators Manual, Bulgarian
361540-35	Operators Manual, Portuguese (Traditional)
361540-36	Operators Manual, Chinese (Traditional)

Table 9-28: Technical Documentation (Continued)

Supplies

A variety of inks, make-up fluids, and cleaning solutions suitable for your particular application is available through Videojet Technologies Inc. See “Ordering Parts, Accessories, and Supplies” on page 9-21 for information on ordering supplies from Videojet.

Figure 9-11 shows the ink, make-up fluid and cleaning solution.

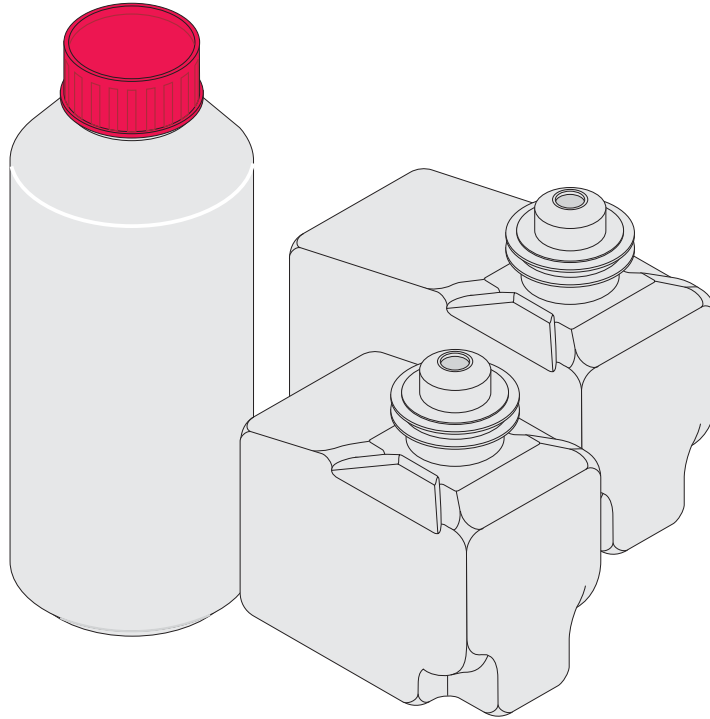


Figure 9-11. Ink, Make-up Fluid and Cleaning Solution